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Original Articles

THE PROPHYLAXIS AND GENERAL MANAGEMENT OF ACUTE RHEUMATIC FEVER.*

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Prophylaxis depends on etiology and pathology; while general management must be co-ordinated with specific treatment, and modified to meet any complications that may arise. It is impossible, therefore, to discuss these two topics without some reference to the subjects that have been assigned to other speakers. Such reference will, however, be chiefly in the way of brief allusion, taking for granted the facts that have been, or will be, elaborated by my colleagues in the symposium.

A. PROPHYLAXIS.

The prophylaxis of acute articular rheumatism has four phases. These refer, respectively, to (1) the initial attack; (2) the complications, especially the cardiac affections; (3) relapses; (4) recurrences. At present this prophylaxis is, in all its phases, largely empirical, because pathology and etiology have not yet given us the necessary exact bases for an exact scientific preventive régime.

We are all agreed that the condition called acute articular rheumatism is a special form of multiple arthritis and that it is an infection. Beyond that, however, we have no certain knowledge regarding its etiology. Acute rheumatic fever, otherwise known as acute rheumatic polyarthritis, is an infection, but the infective organism, if there be but one, has not been demonstrated beyond doubt.

I am inclined to the view that there is a group of organisms, possibly cocci, any one of which under certain conditions may give rise to acute polyarthritis. I do not refer here to those organisms which we have in mind when we speak of gonorrheal arthritis, scarlatinal arthritis, diphtheric arthritis, etc. These are specific microbes, giving rise incidentally, as it were, to specific forms of acute polyarthritis, not properly to be termed rheumatism. But I intend to express the opinion that febrile and articular phenomena essentially the same—that is to say, showing only such individual differences as are ordinarily encountered even among patients infected with a single definite specific germ—may arise from the individual or combined action of a number of germs, probably closely related and possibly allied to the organisms of scarlatina and of erysipelas, and that to this association of phenomena the old name "acute articular rheumatism" may be applied for the present.

It is not beyond the bounds of possibility—rather is it extremely probable—that among these organisms are those which ordinarily inhabit harmlessly the mouth, the nose and the throat. Certain it is that the tonsils and other faucial and buccal—even gingival—structures frequently show the first signs of the infection which is afterward expressed by joint phenomena, cardiac phenomena, etc. Also, it is well known that cold and exposure aid in precipitating the general train of phenomena. Furthermore, experience warrants the assertion that only certain individuals out of the entire number of those exposed both to cold and to the specific germ, or group of germs, manifest the association of symptoms constituting acute articular rheumatism. Therefore, it seems to be highly plausible that these individuals possess a certain susceptibility, for which as yet we have no better designation than the time-honored (or dishonored) term, diathesis.

Of the nature of that diathesis—whether it is chemical or physical, morphologic or dynamic, whether it has a distinct anatomic location, or affects the fluids and tissues of the body generally—we are not in position to speak definitely. Certainly it has an intimate relation with nervous function and especially with the vasomotor apparatus, perhaps also with the tissues of the organs of circulation; certainly, too, it modifies decidedly the chemistry of the blood, the urine, the sweat—perhaps all fluids.

These considerations determine the first phase of prophylaxis, namely, that which is directed against the initial attack. But this can well be discussed together with the prophylaxis of recurrence, and further remarks may be postponed until that subject is taken up.

PREVENTION OF COMPLICATIONS AND RELAPSES.

The second phase of prophylaxis relates to the complications and especially to the cardiac complications. This may seem an undue extension of the term prophylaxis. If so, let us consider the matter under the head of "general management." The most important point in the general management of a case of acute articular rheumatism, then, is the prophylaxis of the complications and especially of the dangerous cardiac complications.

REST, ALL IMPORTANT.

The prevention of relapses and of cardiac complications is practically the same. It consists of several divisions. The first is rest. The second is rest. The third is rest. And the fourth, fifth, sixth, seventh and *ad infinitum*—rest. This can not be emphasized too strongly. And by rest, I mean Rest. Nothing half-willed or half-hearted; no half-way timid compromising; no cowardly abbreviation; but Rest. Enough rest; rest long enough; rest rigid enough; rest, physical and

*Read in the joint meeting of the Sections on Practice of Medicine and on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

mental; rest, cardiac, muscular, articular; complete rest. The great majority of the chronic cardiac lesions which follow acute articular rheumatism are beyond question due to the neglect of rest. It is rather a misfortune for a man to have what is ordinarily termed a "light attack" of rheumatism, for the joint phenomena to disappear too soon, or for the heart to have remained apparently strong and unaffected during the attacks. It is one of the hardest things in the world for the physician to enforce rest under such circumstances; for it is almost hopeless to make the patient understand the necessity of keeping his bed when he feels so well. Unfortunately the physician himself may fail to realize the importance of rest, as I have frequently observed in consultation and in hospital wards.

Shall the rest be prolonged for six weeks—which is the minimum—or shall it be nine weeks or twelve weeks? I do not know. It depends on the case. The patient must rest until all danger of cardiac complication, all danger of straining the weakened and infiltrated heart muscle by full use too soon after recovery (for it is the muscle rather than the valves to which we must look most carefully), all danger of relapse from imprudence has passed away.

When, notwithstanding the skilled administration of salicylates, pain tends to make the patient restless fixation of the joints, local analgesic applications, even the administration of bromids, or codein, or morphin, may be indicated, apart from all other considerations, as measures conducive to rest.

Convalescence must be skilfully managed; the patient is first to sit up in bed a little while, then a little while longer, then out of bed a little and a little longer, and very gradually, and only very gradually, allowed to resume full activity. This is the true prophylaxis—difficult to enforce, but necessary and usually effective.

AUXILIARY MEASURES TO PREVENT COMPLICATIONS.

In addition, there are certain more direct therapeutic measures warranted by experience, and for which I have as yet no satisfactory explanation, which may be adopted to prevent cardiac complications. One is the precordial blister. The blister need not be over the precordium, however; it may be above—say in the second interspace to the left of the median line, covering a space of one square inch and leaving the precordium free for examination. As the blister heals, another may be made near it, and the process may be repeated from time to time. That the blister empirically helps to prevent cardiac complications or helps to cut short the course of an existing pericarditis or endocarditis, or pancarditis, or aortitis I have not the slightest doubt. This opinion rests in part on reading—i. e., on the reports of men of good judgment and large experience; in my part on my own careful observations, extending now over fully twenty-five years; for I first saw the method applied during my undergraduate days in my brother's service in the German Hospital of Philadelphia. The scientific explanation is in the future. The empirical fact is here to be accepted.

ALKALINES AND IRON.

Another useful measure is the administration of alkalines. Whatever the abnormal chemism may prove to be in detail, the acid condition of the body fluids as shown by the acid sweats, by the acid saliva, by the heightened acidity of the urine, gives us a sort of chemicopathologic indication for this measure and empirically it is extremely useful. Alkalines must be administered promptly and sufficiently; they must be so administered as to make the urine alkaline as soon as possible and to maintain its alkalinity throughout the attack. The use of salicylic agents, together with alkalines, is not counterindicated, and, in fact, I usually employ them together. With anemic patients, with old patients, with patients who have had many previous attacks, the alkaline treatment, however, is usually inadvisable. In such cases tincture of the chlorid of iron, as recommended by British observers many years ago, is the best remedy now at our command. It is to be given fearlessly. The dose is *enough;* it is to be repeated sufficiently often, and to be continued so long as necessary. Individualism being necessary, I can not give any exact figures. I frequently prescribe from 20 to 30 minims, sufficiently diluted, every second hour. Ferric medication and salicylic medication can be associated. I am in the habit of prescribing the mixture which I introduced about 22 years ago under the name of "mistura ferro-salicylata" and in which a simple pharmaceutical expedient is employed to prevent the precipitation of ferric salicylate.[1]

PREVENTION OF RECURRENCES AND OF INITIAL ATTACKS.

The prevention of recurrences and of initial attacks in those in whom we have reason to suspect from their family history or personal peculiarities the existence of that which, for lack of a better term, we designate the rheumatic diathesis, has several phases, each of considerable importance.

CARE OF MOUTH, NOSE AND THROAT.

Scrupulous attention must be given to the condition of the mouth, the nose and the throat. This includes regulation of diet; cleansing of the stomach and bowels; attention to the tongue and teeth; treatment of nasal catarrh, if present; destruction of the tonsils, if necessary; removal of adenoid growths and of postlingual glands; and, in general, whatever is needed to keep the alimentary and respiratory mucous membranes clean and healthy, and to get rid of any residual focus of infection. It is not necessary to go into details.

THE AVOIDANCE OF EXPOSURE.

The subject of exposure may be treated briefly. While the popular apprehension of "drafts" is in many aspects ludicrous, yet it is not wholly without foundation in fact. Benjamin Franklin's experiments on himself are conclusive as to this. Unequal heating or unequal chilling—as when, for example, a person sits with one side of the body turned to an open window in an overheated room—produces local disturbances in the circulation and innervation which may either afford a *locus minoris resistentiæ* for bacteria or toxins or may, through perversion of local metabolism or through stagnation of the products of normal waste, give rise autogenetically to morbid changes. A patient who is convalescing from acute rheumatism, therefore, needs to be protected from local chilling, even of slightest degree. This does not mean that fresh air is to be excluded from the sick-room, but it does mean the avoidance of drafts, the screening of the bed if necessary and the proper disposition of clothing and bedcovering. Beyond this is the avoidance of exposure in the more ordinary sense;

1. The revised formula follows: Sodium salicylate (true), 1 dram; tincture of ferric chlorocitrate, 1 fluidram; glycerol, 1 fluidram; gaultheria water, sufficient to make 1 fluidounce. Mix. Dose: 1 to 2 fluidrams in water every hour to every fourth hour. Sodium bicarbonate, not exceeding 60 grains to the ounce, may be added, if desired, and with slight occasional shaking the mixture will remain clear.

exposure, that is, to an extreme degree of cold or to dampness with or without extreme cold, and independently of the unequal incidence of cold or dampness on different parts of the body. Those who have seen cases of paroxysmal hemoglobinuria, of Raynaud's disease, of ordinary chilblains and frost bite, or even of the various degrees of cyanosis of exposed extremities produced by cold, need no further evidence either of the morbific effects of low temperature or of the manner in which susceptibility and reactive power vary in different individuals. As in the nearly comparable case of lobar pneumonia, the circulatory changes brought about by exposure assist in determining the pathogenic activity of the infective organism or organisms; the difference being that, so far as yet appears, there is no definite personal or constitutional liability to pneumonia, as there is to acute articular rheumatism. Exposure, therefore, to a mild degree of cold affecting different portions of the body surface in a markedly unequal manner, or to a high degree of cold acting equally on uncovered surfaces or on the body in general, tends, especially if combined with dampness, to determine, in susceptible individuals, relapses or initial attacks and must be avoided.

EDUCATION OF THE VASOMOTOR REACTION.

As, however, exposure of one or another kind is among the unavoidable accidents or incidents of life, it is highly important to bring the patient, if possible, into condition to withstand at least its ordinary degrees. To this end, the resistance of the vasomotor system in especial, is to be strengthened by appropriate physiologic exercise.

In our consideration of the etiologic moment of cold and dampness, I purposely included those extreme types of vasomotor changes described by Raynaud and those very common instances which every one sees daily during the winter, to emphasize three facts: 1. The circulatory failures caused by low temperature vary greatly in individuals of different constitution. 2. In certain phases of this variation they afford opportunity for the pathogenic action of micro-organisms and toxins. 3. Some of the abnormal phenomena observed in and around joints during an attack of acute articular rheumatism are not inflammatory in the true sense, but indications of vasomotor paralysis. There is a vicious circle, or rather, a vicious network, in which local stagnation from cold, the production of autogenous and microbian toxins, further vasomotor paralysis due to intoxication, augmented production of toxins and associated inflammation, act and react on one another. The liability to the initiation of these changes may be reduced by systematic measures designed to educate and exercise the vasomotor reaction. Several of the methods of physiologic therapeutics are available for such exercises, the most useful being (1) massage, (2) electric-light baths and (3) thermic stimulation by means of hot and cold water.

1. *Massage.*—It is not necessary to go into detail, but a few general hints may be given. As a rule, the best form of application is general massage, a systematic manipulation of one part of the body after the other, as followed in the practice of Weir Mitchell.[2] In this, as in all other forms of treatment, however, skilful modifications suited to the spinal conditions presented by the individual patient are required. Control over the vasomotor reflexes may also be established by that special form of massage to which the names of "manual therapy," "mechanoneural therapy" and "cheiropraxy" have been variously applied. It consists of intermittent pressure by the finger tips along the vertebral column, the interruptions being frequent or slow according to the effect desired or produced. Vibratory mechanical apparatus may also be used. In my judgment, however, general massage is far superior to any other method.

2. *Electric Light.*—The incandescent electric-light bath may be employed locally or generally. When used simply to educate the vasomotor reactions it is best to use red light and to limit the application to 10 minutes or less, following it by a brisk rub with cold water and friction with a rough towel or glove.

3. *Hydrotherapy.*—Various hydrotherapeutic measures are applicable, chiefly those in which hot water and cold water are applied alternately. Here, too, strict individualization is necessary. Temperature, pressure and duration must be prescribed as definitely as the components of a pharmaceutical mixture. Douches, affusions, general baths and local baths may be employed. Vigorous friction should always accompany the use of cold water in any form and the application should be brief; chilling is always to be avoided, and the success of the treatment depends on the promptness and completeness of the reaction following the cold application. A simple measure, which patients may easily employ at home, is first to sponge the body with water at a temperature of from 104° to 108° F. This procedure should not occupy more than three minutes. Then, taking in the hand water at a temperature of from 70° to 60° F., the body is to be rubbed vigorously therewith. This procedure must not occupy more than two or three minutes and is to be followed by a vigorous drying rub with a rough towel or glove. The best time for this application is on rising in the morning. No other apparatus is required than two basins—one for the hot water and the other for the cold water—and a thermometer. Even the thermometer is not indispensable in this particular form of application, as the sensations of the patient are a fair guide to the permissible temperatures of the hot and cold water. It is sometimes necessary to begin in a gentle and gradual way by limiting the cold application to a portion of the body. Thus at first only one forearm may be rubbed with cold water, then both forearms, then both arms and the upper part of the chest and so on, extending the area gradually and symmetrically until the whole body is involved. When the patient enjoys possession or use of a modern bathroom, a brief plunge in the hot water may be followed by a cold rub or cold shower; or we may employ alternate hot showers and cold showers, or a hot shower followed by a cold rub, or any other modification that suits the fancy or necessity of the patient. The important matter is to remember that the treatment must be gentle and brief, that friction must accompany the cold application however made, and that the sufficiency of the reaction is the test of the efficacy of the application.

ELIMINATION.

Regular and sufficient elimination is a necessary prophylactic measure. The urine must be carefully examined from time to time not only as to its acidity and the presence of such abnormal constituents as albumin, casts and excessive oxalates and urates, but also as to its general nitrogenous and ammonia content, the presence

2. Solis-Cohen's System of Physiologic Therapeutics, vol. vii, pp. 25 seq.

or absence of ethereal sulphates and their proportion to the fixed sulphates and, in general, whatever will throw light on the general metabolic balance. Apart from this an occasional therapeutic sweat once a month or oftener, according to the individual case, is highly desirable. The incandescent electric-light bath may be employed for this purpose, in which case the white light is to be used and the duration may be twenty minutes or longer. The hot-air cabinet and the Turkish bath, the dry hot pack or any other available means not specially counterindicated by the general condition or cardiac lesions of the individual patient, may be employed in the absence of facilities for the electric-light application, which, however, is to be preferred over all others when available. A convenient and cheap apparatus for home use is being made at my suggestion and will soon be procurable at the shops. A cold coil or cold compress should be placed over the head and another over the precordium, during the application of heat. Perspiration should be allowed to continue for from thirty minutes to one hour, after which the patient should receive an alcohol rub, to be followed by friction with cold water or by general massage. If massage be employed, there should be, as in other instances of its employment, complete rest for at least an hour following.

DIET.

An important feature of prophylaxis is the regulation of diet. The food should be simple and nutritious and should be so chosen as to yield a minimum of nitrogenous waste. In addition, the carbohydrates should be cut down to the lowest point consistent with the maintenance of nutrition, and oil and fats substituted, so far as possible. This is not only to avoid fermentative processes in the gastroenteric tract and their undesirable consequences on the body fluids in general, but also because patients of the rheumatic diathesis exhibit a distinct failure in carbohydrate metabolism. While thus restricting the diet, it is a mistake, however, to be too rigid. Red meat should be allowed once daily, an occasional baked potato is to be advised, and well-cooked rice is to be permitted at any time. In general, milk and milk products, cereals, fruits, nuts and green vegetables should form the principal portion of the diet. Pork, veal, crab, lobster and other crustaceans, hashes and messes of all kinds are to be avoided, as are likewise pickles, sweets and pastry. As in all other matters, however, the diet is to be individualized; with an extra restriction here and a greater liberty there. Water should be taken freely. In the ordinary case mineral waters have no advantage over pure, clear hydrogen monoxid, but in cases with persistent pain and stiffness mild alkaline waters—for the obese, sulphur waters, and for the anemic, aged and feeble, alkaline chalybeate waters—are useful.

B. GENERAL MANAGEMENT.

Much of the general management of the attack has been covered in discussing the prophylaxis of the complications, relapses and recurrences. The most important measure is rest. This I would again emphasize. The diet should be exclusively milk for at least two weeks and longer if necessary; that is to say, during the entire duration of febrile temperature or joint involvement. If necessary, the milk may be pancreatized or diluted with Vichy water. Increase of diet is to be gradual and no flesh food is to be given until convalescence is fully established, which means for at least six weeks after the beginning of the attack. As a matter of course, the bowels are to be kept freely open; calomel at the beginning, followed by an alkaline laxative, is the usual and probably the best method. During the further course of the attack, alkaline laxatives are preferred. The importance of keeping the urine alkaline has already been mentioned, and with this goes, of course, the necessity of keeping up the quantity of urine not only to, but beyond, the normal point. Water is the best diuretic. In some cases, especially when pathologic sweating is excessive, a therapeutic sweat, which may readily be given by means of an incandescent electric bulb introduced beneath the bed covers supported on a cradle, is highly useful.

MANAGEMENT OF CARDIAC COMPLICATIONS.

Reference has been made to the prevention of cardiac complications, and but a word further need be said as to their treatment. The blister is useful, alkalines should be continued. Whether or not to continue the salicylates is an open question, and the general condition of the individual patient must determine it. If articular manifestations continue to be severe, it is usually best to keep up the salicylic treatment. Otherwise, in the actual presence of endocarditis, or pericarditis, it is better to discontinue that drug. Iron is sometimes of service, and I have on several occasions during the last few years resorted to the administration of colloidal silver by the mouth or rectum, or in very severe cases even by a vein. I am convinced that in many cases it is extremely useful, though I can not assert that it is always effective. Like many other useful remedies, it suffers discredit from extravagant and unwarranted laudation. When etiologic data become more exact our use of remedies can be more discriminative. The rectal dose of the silver preparation is from one-half to one ounce of a 5 per cent. solution, twice daily, or oftener if necessary, provided the bowel is tolerant. By the mouth a teaspoonful of the same solution may be given every two or three hours. By the vein from 30 to 90 minims (2 to 6 c.c.) of a 3 per cent. solution or of 5 per cent. solution, if it can be made sufficiently fluid, may be given in one or two or three or more times in the twenty-four hours, according to the urgency of the case and the difficulty or ease of administration.

Ammonium bromid and strontium bromid are sometimes useful in the treatment of pericarditis, especially if there be great restlessness; if necessary, opium should be administered in sufficient quantity to control pain. I prefer codein to other derivatives of opium. A precordial coil is extremely useful. When first applied, water of about 90° F. should be run through it for two or three minutes; after this, ice water. The coil may be kept in position continuously or removed and reapplied from time to time, according to the effect on the pulse and on the general comfort of the patient. In the absence of the precordial coil, an ice bag is a clumsy, but not inefficacious substitute.

LOCAL APPLICATIONS TO JOINTS.

Local applications to the joints are many, and, while most of them are useful in nearly all cases, sometimes patients exhibit idiosyncrasies which must be regarded. Among the preparations which I have found most generally applicable are ichthyol, methyl salicylate, sodium bicarbonate with tincture of opium in the well-known "Fuller's lotion," "lead water and laudanum" and a saturated solution of magnesium sulphate, as suggested

by Dr. Tucker in surgical arthritis. Sometimes it is best to wrap the joints in cotton or lamb's wool, dry. Sometimes it is well to cover the local application with oiled paper or oiled silk and sometimes it is best to permit evaporation. There is no invariable rule. One must be guided by the general condition and the special requirements of the individual patient. When there is a tendency to persistence of effusion around the joint after febrile movement has subsided, I have found it useful to apply two or more very small blisters an inch or so beyond the margin of the effusion. When the effusion is obstinate, it is well to encircle the limb with, say, half a dozen of these small blisters, each about half an inch in diameter.

CONCLUSION.

In conclusion, I wish to leave with the Sections two words as guiding principles in the management of all cases of articular rheumatism: First, and above all, for every patient, *rest*, strict enough and long enough. Second, as to each case, and in regard to the measures auxiliary to rest—whether specific medication, alkalinization, diet, or the use of purgatives or diuretics, of iron, of blisters, of precordial coils or ice bags, of local applications to the joints, or of any other of the prophylactic or remedial means to which allusion has been made—strict individualization. But once more let me say that the measure of supreme importance in every case is *rest*.

THE TREATMENT OF RHEUMATISM BY SPECIFICS.*

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I was asked to discuss the specific treatment of acute articular rheumatism or that kind of treatment which is supposed to combat the cause or neutralize the toxins of the disease.

Unless we know the cause of a disease, and are convinced that a certain remedy destroys that cause or neutralizes it, we can not call a remedy a specific. Therapeutists, however, were certain that mercury was a specific for syphilis and quinin for malaria before all this information had been obtained in regard to these diseases. As yet we have not the requisite knowledge of the cause of rheumatism which would enable us to say with positiveness that there is a specific for the disease, although the salicylates possess many of the attributes of one.

Almost from the time that rheumatism was clearly recognized its cause has been believed to be a noxious foreign agent in the blood and fluids of the body, and at first this was thought to be autogenous. Many clinicians confusing its pathology with that of gout, suspected uric acid to be its cause, and later professional opinion ascribed the same rôle to lactic acid. Comparatively recently, however, physicians have become convinced that acute articular rheumatism is an infection and of microbic origin.

Naturally, therapeutic views have changed with these changing concepts of the nature of the disease. Attempts were made to eliminate the harmful matter by bleeding, by purgation, by emesis and by diaphoresis. Such was the treatment of rheumatism until toward the middle of the last century, when it was widely believed that the disease was due to an acid in the blood and probably to lactic acid. Therefore, alkalies were given as an antidote. It is true that many years before alkalies were prescribed empirically for rheumatism, but at this time they were used as a specific to neutralize the supposed cause of the disease.

Although the alkaline treatment of rheumatism can no longer be regarded as specific, it deserves consideration, for it is used to-day, partly because the feeling still prevails in the profession that it is advantageous to neutralize some acid in the blood, and still more because statistics make it probable that the alkaline treatment averts endocardial inflammation.

It has been definitely proved, however, that lactic acid, which by Richardson and others was believed to be the cause of rheumatism, is not its cause. Moreover the reduction in alkalinity of the blood in this disease is not greater than in many other fevers and other pathologic states; therefore, the acid theory has no adequate foundation. The claims of Furnivall, Chambers, Dickinson and many others that endocarditis is less liable to occur and that the disease is less prolonged when alkalies are given freely can not be dismissed summarily. On the contrary, averaging the statistics of several of these writers, it appears that cardiac complications arise in only one case in thirty under alkaline treatment and in one case in four under other kinds.

The drugs used to increase the alkalinity of the blood are chiefly the potassium and sodium bicarbonates, citrates and acetates. To make them efficient, enough must be given promptly to render the urine strongly alkaline, and it must be kept so. It usually requires from 1 to 1.5 grams of these drugs administered at intervals of from three to four hours to accomplish this result. The manner in which they lessen the liability of those suffering from rheumatism to endocarditis can not be explained.

Although it must be admitted that the alkaline treatment of acute articular rheumatism is useful, it is in no sense a specific.

In 1874 Maclagan advised the use of salicin as a specific in acute articular rheumatism. Soon thereafter salicylic acid was shown to have similar powers and it was proved that salicin contains salicylic acid and depends on it for its effects in rheumatism. Because of the tendency of salicylic acid to irritate the stomach, sodium salicylate was soon substituted for it, and for a quarter of a century this drug has held its place as the best remedy for acute articular rheumatism. If any remedial agent deserves to be called a specific for rheumatism this does.

Unfortunately the physiologic action of this commonly-used drug has never been demonstrated so thoroughly as it should be. In therapeutic doses it has little or no effect on the cardiovascular system. Sometimes it causes a temporary rise in arterial tension but oftener it produces no effect. In very large doses it weakens the heart and lowers arterial pressure. In toxic doses these effects are pronounced.

It does not affect healthy sensory and motor nerves nor the central nervous system unless toxic doses are given; but in many painful disorders it is a prompt and effective analgesic. In large doses it produces the symptoms of cinchonism, and in still larger ones or in individuals who are particularly susceptible to it, partial or complete, deafness or blindness, headache, delirium, rapid and deep respiration, even distressing dyspnea,

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cardiovascular weakness, profuse sweating, maculæ or ecchymoses in skin and mucous membranes, and albuminuria because of nephritis. In fatal cases death may be preceded by convulsions.

Salicylates ordinarily have no effect on temperature in health, although sometimes very large doses may lower it slightly. This, however, is not a uniform effect. In fever, on the other hand, it is a trustworthy antipyretic. Usually a few minutes after its administration sweating is provoked and almost simultaneously the temperature falls, remaining depressed in moderate cases for from four to six hours, and the pulse rate becomes slower in proportion as the temperature falls.

The drug doubtless circulates in the blood as a salicylate, but it is not certain in what combination.

It is eliminated chiefly by the kidneys, though partly by the liver. Very large doses irritate the kidneys and even excite inflammation of them. Under its influence urea is eliminated in larger amounts, which may be because it stimulates the liver.

Salicylic acid irritates the stomach and intestines, often causing lack of appetite, nausea, vomiting and diarrhea. The salicylate of sodium is much less liable to produce these results, although its mawkish, sweet taste is nauseating to many people.

These physiologic effects of the salicylates do not explain fully the influence of the drug in acute articular rheumatism. In this disease we have to do with fever, and inflammation in one or more joints which causes in them pain, swelling and often slight redness of the skin; there is also sweating, progressive anemia, often inflammation of the endocardium and pericardium and sometimes of the pleura and iris. A few hours after full therapeutic doses of the drug have been administered the pain is greatly lessened, the redness of the skin disappears, the swelling subsides and the fever abates, although it does not usually disappear entirely until several days after the affected joints have ceased to show signs of inflammation. Sweating, which is a phenomenon of the disease, is aggravated. It is also probable that the drug, if administered for many days in full doses, increases slightly the anemia which the disease produces. In the average case pain and arthritis are controlled by the end of the third or fourth day or sooner. In as many more days the fever disappears so that convalescence may be well established in two weeks. In severe cases a longer time is required to effect these results and various joints may be successively involved before the disease abates. That the course of the disease is shortened by the salicylates is the belief of most physicians.

It is evident that an antipyretic is not all that is needed to produce such marked amelioration as all physicians have seen effected by the salicylates in acute rheumatism, for quinin will lessen temperature as efficiently but does not produce the other therapeutic effects of the salicylates. Moreover, in other fevers the salicylates do not shorten their course or produce the profound general effect on them which these drugs do on rheumatism.

Nor are these results due largely or chiefly to the analgesic effects of the salicylates, for other analgesics act as efficiently but do not produce so specific an effect on rheumatism, although in this they approach nearest the salicylates. Soporifics, such as opiates, lessen the pain of rheumatism but do not lessen the joint swelling or fever or shorten the course of the disease.

The most noticeable specific effect of the salicylates, however, is the prompt disappearance of the redness, swelling, tenderness and pain in and about the affected joints, for other forms of arthritis, such as gonorrheal or septic arthritis, do not resolve promptly even when the salicylates are given in the largest therapeutic doses.

Moreover, rheumatic inflammation of the eye disappears readily when the salicylates are administered as it does not when other drugs are used.

Although because of these peculiar striking therapeutic effects the salicylates are employed and relied on as specifics for acute articular rheumatism, it is generally admitted by clinicians that they do not lessen the liability of the heart to be affected, a fact which it is difficult to explain. It has been suggested that they so promptly lessen or relieve the arthritis that the average patient does not keep quiet so long as he should to save his heart. This, however, is not an adequate explanation. If the endocardial and pericardial inflammations were truly rheumatic we would expect them to respond as readily as the joints or eye.

Many patients can not tolerate the taste of salicylic acid or the salicylate of sodium. In a smaller number of individuals these drugs produce nausea, vomiting and often diarrhea and, therefore, can not be used. A few persons possess an idiosyncrasy which makes the salicylates particularly poisonous; in these cases they produce dimness of vision or temporary blindness or deafness, or excessive noise in the ears and headache or delirium. It is very seldom that faintness and great cardiovascular weakness are seen as a result of taking therapeutic doses. In a majority of cases of rheumatism some ringing of the ears and deafness must be produced by the drugs to obtain therapeutic results. Fortunately the other untoward effects are so rare that they do not deter physicians from using these remedies.

Sodium, ammonium, lithium or methyl salicylate, salol, salophen, aspirin and salicin all derive their efficiency from the same active principle, salicylic acid. Because of its irritation of the gastrointestinal canal, however, salicylic acid uncombined is rarely used today. Salol and salophen are only useful in mild cases, for they can not be given safely in sufficiently large doses to control severer ones. Aspirin (acetyl-salicylic acid) in fifteen or twenty-grain doses is efficient in the average case of rheumatism. By many it is thought to be less liable to disturb the stomach than the salicylates; however, I have seen it provoke vomiting so often that I feel little more security in giving it. Oil of wintergreen is efficient, but in large doses it often irritates the stomach and bowels and, therefore, is chiefly used in mild cases and when the height of a severe attack is passed. The salicylate of sodium is the most reliable preparation. I am convinced also that the salicylate of sodium made from oil of wintergreen is best tolerated by the stomach.

All these preparations are most agreeably administered in capsules. Half a gram of the salicylate of sodium can be given in this way and two capsules will make an average dose. If given thus, care must be taken that water is drunk in sufficient quantities to insure the prompt solution and dilution of the drug in the stomach. A charged solution of bicarbonate of sodium or effervescing sodium or potassium citrate may be drunk instead of water and the alkaline treatment may thus be combined with the salicylates.

Although quinin is a specific in malaria, there are other effective drugs which may be substituted for it. This is true also of the salicylates in rheumatism. Anti-

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pyrin is a good substitute, but from a considerable experience with it I am sure that it deepens the anemia of patients and that convalescence is apt to be more prolonged.

If acetanilid and phenacetin are given in quantities sufficiently large to control pain, lessen fever and arthritis they must be administered in maximum or more than maximum doses. They also will deepen the anemia produced by the disease, therefore make convalescence slower and not infrequently produce dangerous symptoms. Consequently it follows that acetanilid and phenacetin are only adapted to the treatment of very mild cases of short duration.

Clinicians have been convinced that acute articular rheumatism is an infectious disease, but no one microorganism has been identified as its cause.

Menzes in 1902 described a streptococcus which he found with great uniformity on the tonsils of those suffering from rheumatism. From these organisms he prepared a serum by a method similar to that used in making diphtheria antitoxin. When this was injected beneath the skin of patients with acute rheumatism a reaction was produced, characterized by increased temperature, pain and swelling. But a similar reaction was not obtained by the use of other antistreptococcic serums.

Following the reaction produced by Menzes' serum the pain and swelling in the joints subsided so that in average cases the joints were useful in three or four days and the fever disappeared in six or seven. When the serum was used in chronic cases the symptoms were made temporarily more acute and then improved as in the acute cases. Menzes believes that the cardiac phenomena of rheumatism are also favorably influenced by his serum.

Current medical literature contains few records of experiments with Menzes' serum. Schmidt used it fifteen times, and six of his patients were certainly improved, four were subjectively improved, and five received no benefit. Schaefer's report states that he obtained good results in six cases.

I believe that this serum has not been used in America, but in 1903 George H. Sherman of Detroit printed the results of his experience during the preceding year with antistreptococcous serum in rheumatism, and in 1906 he published a second paper on the same subject. He found that when injections were begun on the first or second day of the disease recovery usually was effected in a few days. However, if injections were begun much later the course of the disease was not so much shortened. In the cases which he has described in detail the patients began to improve by the fourth day or sooner. They did not exhibit a reaction after the injections as did Menzes' patients. It is noteworthy that in twenty-four of Sherman's cases only two patients developed endocarditis.

Sherman admits ignorance of the organism which causes rheumatism, but points to the fact that a majority of investigators who believe that they have succeeded in findings it, isolated a coccus resembling the streptococcus. He hopes that the antistreptococcus serum of commerce will produce some good effect, as it often does in scarlet fever.

It is evident that the serum treatment is in a most elementary experimental stage and, moreover, that bacteriologists generally have not been impressed with the rationale of it; therefore, they have not repeated Menzes' or Sherman's experiments extensively.

DISCUSSION

ON THE SYMPOSIUM ON RHEUMATISM.

Dr. James M. Anders, Philadelphia, agreed that the weight of testimony is in favor of the microbic origin of rheumatism. In addition to the arguments in support of this view, expressed by Dr. Cohen and others, he added that the occurrence of house series of cases, of epidemics and more especially the clinical behavior, including the nature of the commoner complications of acute rheumatism are strikingly confirmatory, but, as is the opinion of other observers, the specific organism has not yet been isolated. Among the predisposing conditions favoring the development of acute rheumatism, he thought reference might have been made to certain morbid conditions of the alimentary canal, because they often precede acute articular rheumatism. The condition known as intestinal autointoxication, however, is the commonest. Dr. Anders regards the diagnosis of acute rheumatism as being exceedingly difficult. In intestinal autointoxication there often develop arthritides which very closely resemble ordinary acute articular rheumatism and Dr. Anders knows of no way in which they can be clearly and definitely separated clinically from that condition. Dr. Anders expressed the opinion that acute endocarditis is the most frequent complication of acute articular rheumatism. In this connection two facts should be borne in mind: First, that in many of these cases the symptoms pointing to acute articular rheumatism are so exceedingly mild as to defy detection, yet latently these conditions may lead to sclerosis of the valves or chronic endocarditis. On the other hand, the influence of age on the liability to rheumatic cardiac complications of rheumatism is quite pronounced and Dr. Anders thought that the profession, in general, does not appreciate the fact. The statistics of Babinski have always been convincing to Dr. Anders. Babinski found in all but seven cases of a total of 76 instances of acute articular rheumatism, evidences of lively irritation or actual inflammation within the heart. Dr. Anders said that while the period of greatest liability to rheumatic endocarditis and other forms of cardiac complications is childhood, during adolescence, and more especially after the twentieth year, this liability rapidly decreases. A very practical lesson should be drawn from this fact, namely, that when chronic endocarditis occurs in the middle period of life in a person who has had acute articular rheumatism, but after the twentieth year of age, the likelihood is that the cause of that chronic endocarditis is something else than the preceding attack of rheumatism. As a rule, careful investigation of these cases discloses other and more potent causes for the chronic endocarditis than antecedent rheumatic attacks. Myocarditis, as a complication of acute articular rheumatism, in Dr. Anders' experience, is usually associated with endocarditis, but he is quite certain that he has observed instances of pure myocarditis as a complication of acute articular rheumatism. In his experience pure myocarditis, as a complication, is most apt to arise in case of rheumatism occurring at an unusually late period of life, or, in other words, at a time when acute endocarditis as a complication is becoming less common. As to the treatment of acute articular rheumatism, Dr. Anders thought the time ripe to emphasize the specific action of the compounds of salicylic acid in the treatment of this disease. While a few cases must resist the ordinary measures of treatment, there may be a sufficient accumulation of fluid in the articulations to justify aspiration, Dr. Anders is sure that in the vast majority this surgical procedure must be regarded as contraindicated. He believes that the compound of salicylic acid should be given in sufficient dosage to cause slight toxic effects; as a rule 120 grains of sodium salicylate, per diem, suffices, but in a strong, robust person it may require 180 or more to accomplish this effect.

Dr. Alfred Stengel, Philadelphia, emphasized several points. First, that in the present state of our knowledge we must regard the acid theory of causation as absolutely exploded, and yet one hears frequent references to uric acid as the cause of rheumatism. Second, and of great importance, is the matter of individual predisposition. This is seen in the tendency to recurrences in rheumatism in certain individuals,

as well as in the family liability to the disease. But with regard to recurrence Dr. Stengel thought there is another operative cause which is not considered frequently enough. There is in many of these cases a cardiac lesion, developed in the first attack. There are very few cases of this type of rheumatism, frequently recurring in one individual, that he has investigated without finding evidence of the development of a rather serious cardiac lesion in one of the first, if not the very first, attacks. In what way this operates to bring about subsequent attacks of rheumatism Dr. Stengel did not know, but he believes greater attention to the circulatory conditions of these individuals would prevent recurrence. Dr. Stengel also considers as an important factor in the treatment of the disease enforced rest, and he has sometimes treated cases with the actual application of plaster casts or various other forms of fixation casts, though acute attacks and found there was a remarkable subsidence of fever and local symptoms in some cases which seemed to be uncontrollable before. It has been shown, he said, that the salicylate treatment does not cut short the duration of the disease or reduce the frequency of the cardiac complications. Indeed, it is claimed that cardiac complications are rather more frequent. Undoubtedly, whatever of specific value there is in the salicylates, the most striking manifestation is in the control of pain. With control of pain there is a greater tendency to free use of the joints. Though the patient does not get out of bed, he may use his joints in a thousand ways while supposedly at rest in bed, and the attrition of the synovial members, in which the bacteriologists have shown that bacteria are prone to lurk, may cause their dissemination. The bacteriologists, in aspirating fluid from the joints for the purpose of culture, have often been surprised to find it sterile. The explanation at first seemed difficult to find if rheumatism is, indeed, an infectious process, but it was later discovered that bacteria were present in the synovial tissues, and that the fluid in the joints was sterile, for the same reason that the edematous fluid surrounding any infectious focus (as a bacterial embolus in a small vessel in a solid tissue) may be sterile, whereas the bacteria themselves are at the very center of the focus. Dr. Stengel believes that the serum treatment has possibilities, and, probably, great possibilities of development. He began the use of antistreptococcus serum quite a number of years ago, before the supposed relation of the streptococcus to rheumatism was made out; at the time when Sahli's work called attention to staphylococci as the possible cause of rheumatism. Dr. Stengel used antistreptococcus serum because no antistaphylococcic serum was available. This treatment was quite successful in some cases of the type that has been the opprobrium of medicine, that which seems to yield to none of the methods of treatment. The antistreptococcus serum, he said, seems to give an impetus toward resistance against the disease which had been lacking before.

Dr. Woods Hutchinson, New York City, raised the question whether acute articular rheumatism is not a reaction of the tissues to a large number of infections rather than to a single one. During the last two years it has been his fortune to observe some 350 cases of chronic rheumatism. Of 120 successive cases in which he was able to follow the history carefully and thoroughly, 72 were clearly traceable to an attack of acute infection, the largest number to influenza, ten or twelve to tonsillitis, then came pneumonia, typhoid fever, scarlet fever and even diphtheria. They appear to be of the same type and follow the same course, regardless of source. Of those who did not give a history of an acute infection shortly before the attack, a number gave a history of autointoxication. Several of them were able to abort attacks with calomel and soda, taken sufficiently early and promptly.

A second question Dr. Hutchinson raised was as to the actual part which is played by the joint tissues in this disease. To what extent is this a true arthritis? He believes that one of the greatest calamities in the discussion of this subject is in likening it to gonorrheal rheumatism, an entirely different affection, as different from acute articular rheumatism as is day from night. All careful observers find that it is the periarticular tissues and not the joint proper which are chiefly affected, and Dr. Hutchinson believes that of the periarticular tissues it is the nerve filaments that are chiefly involved, and that a post-infective neuritis plays a large rôle in the disease. The great majority of his 120 cases were chronic ones, but in most of these the pain and later the muscular wasting and anesthesia followed clearly the line and distribution of nerve trunks. In the 30 acute cases, twenty showed well-marked pain points about the joint, though often an inch or more away from the synovia and corresponding nerve-twigs, which were agonizingly sensitive to pressure, while the rest of the swollen, fiery, glossy joint was insensitive to even heavy pressure.

Dr. Louis Burckhardt, Indianapolis, Ind., has met with disappointment in the use of salicylate of soda. He has given 180 to 360 grains, in 24 hours, and has given protracted, honest rest, as much as the patient and he could stand, and still the patient has not improved. He has, however, obtained good results from the treatment of rheumatism by venous hyperemia. It is a question of technic to get good results, but it is not a difficult technic. The point is that in acute cases the bandage is left on for a long time without producing much hyperemia. In chronic cases, like tuberculosis of the joint, the bandage is applied more tightly, producing more hyperemia, more of an exudate. The bandage is left on for an hour or an hour and a half.

Dr. J. A. Lichty, Pittsburg, Pa., for four or five years has had a strong conviction that infection occurred often by way of the tonsils, and a number of these patients had their annual or semi-annual attacks of tonsillitis, followed by joint infection. They were operated on, but the tonsils were taken out by the guillotine method, and Dr. Lichty was disappointed in his results. In the last two years, however, he has advocated digging out the stumps of the tonsils between the pillars of the fauces. During the past winter those patients whose tonsils were removed absolutely, had no recurrence of the attacks.

Dr. J. N. Upshur, Richmond, Va., concurred in the statement that in many cases there is a condition of auto-infection from gastrointestinal disturbances, and that the liver is often back of that condition of autoinfection in the intestinal canal. For some reason the liver has failed to perform its function, and a minimum amount of healthy bile is poured out into the intestine. As a result there is fermentation and infection, which produces trouble. He believes that it is due to torpid liver, digestive disturbance, and the upset condition of the vasomotor system, and through it, metabolism, and that this covers the causation in many cases of acute rheumatism. So far as the therapy is concerned, in his experience the most efficient method of treating rheumatism has been to begin by giving a dose of calomel, combining it not with bicarbonate of soda but with cascara, alain, belladonna and nux vomica. Bearing in mind the intensely acid condition both of the perspiration and the urine, Dr. Upshur has found that when he gives the patient a pure alkali, usually 10 grain doses of bicarbonate of potassium, every two hours, through a period of 36 to 48 hours, a neutral condition of the urine is produced; that the salicylates are then most efficient, and he gets relief from pain, swelling and redness, and a minimum tendency to endocarditis.

Dr. Walter H. Neilson, Milwaukee, Wis., has observed the common infection from the tonsils, and also an intense coryza preceding an attack of rheumatism, and finds that large doses of salicylate of sodium will relieve a tonsillitis and a coryza and bring about a prompt cure. He has also noticed that those men who are subject to inflammatory rheumatism are also subject to flatulence; that there is a great deal of fermentation going on in their digestive tracts. As a prophylactic, attention should be paid to the digestive tract. He believes in the use of salicylate of sodium in large doses, not the ordinary 15-grain dose, but such doses as will cause ringing in the ears and, perhaps, mild hallucinations.

Dr. Joseph E. Gichner, Baltimore, Md., in the last few years has observed in every case of acute articular rheumatism, rheumatic fever and septic fevers, in connection with other diseases, that the point of infection was most frequently in the mouth. He considers the tonsils as being secondarily, and not primarily, affected. In every case there is inflammation of a

spongy gum, or carious teeth, and the patient will be relieved of symptoms of fever as soon as the mouth is attended to. Besides these very important prophylactic measures, Dr. Giehner considers the best treatment to be to carry out a line of auto-opsonic action, or of making the autitoxin by the person who has raised his own organism, by the Bier stasis or induced hyperemia in joint inflammation.

Dr. John A. Witherspoon, Nashville, Tenn., referred to a child who had rheumatism, with tonsillar trouble invariably preceding. The tonsil was removed without any result, but when it was removed thoroughly, the child did not have any more rheumatic trouble. The same occurrence took place in the case of another child. Dr. Witherspoon does not believe that rheumatic infection enters only through the tonsil, although the tonsil is a prolific source. He sounded a note of warning in regard to the enormous doses of salicylate of soda advised. He has had two cases of salicylate of soda poisoning. If, he said, ordinary doses of salicylate of soda do not effect in rheumatic trouble, something else should be tried. In Dr. Witherspoon's opinion the best treatment for articular rheumatism is rest, absolute rest, and that the reason cardiac complications occur more frequently is simply because the salicylate relieves the pain and the patients assume the upright position too soon and get around. Another point is to make these patients comfortable, and Dr. Witherspoon knows of nothing that gives more comfort than fixation of the joint and applications of heat.

Dr. George Dock, Ann Arbor, Mich., called attention to some observations of Aschoff made within the last three years. Aschoff described, as occurring in rheumatism, certain miliary nodules in the heart which he considers specific, histologically, which are likely to be closely associated with the fibers coming from the auriculo-ventricular bundle, and, hence, with the action of the muscle fibers.

As to the amount of salicylic acid and the salicylates, Dr. Dock said, the word specific is a very unsatisfactory one, but we must admit that the salicylates have certain effects. He believes that the salicylates have an effect of some kind, perhaps only symptomatic, even in a gonorrheal arthritis and in infections of unknown kinds. We would appreciate the action of salicylic acid better, he continued, if we realized that salicylic acid is inimical to many of the germs found in this disease group, and that salicylic acid and its salts are excreted into the tissues so likely to be affected by rheumatism or septic diseases, namely in the serous tissues. It was shown by O. Rovenbach, and Dr. Dock has often confirmed the observation, that if a patient with acute arthritis is given a salicylate, that salicylate can be recovered from the joint fluid. An iodid given to such a patient will not be found in the joint fluid. Further, in regard to salicylates, Dr. Dock pointed out that the choice of a preparation is subject to a great many individual differences. Some patients can take large doses of salicylic acid when they can not take aspirin. Aspirin is new, however, and will probably develop some drawbacks after it is used longer, as has salicylic acid. Dr. Dock also warned against enormous doses of salicylates. He, too, has seen very serious results from 240 or 360 grains given within 36 hours.

In regard to the use of blisters, Dr. Dock said it was once his fortune to apply blisters under a very experienced and venerable preceptor, and he probably has used as large and fine blisters as anyone now living, getting blisters 9x9 for pleurisy, smaller ones over the heart and keeping up the effect with croton oil. He has seen serious results follow them; they are extremely painful and produce secondary infection. Smaller, "flying" blisters have been disappointing also, and he suggested to anyone who uses blisters to put on next time an icebag instead.

Dr. Norman Bridge, Los Angeles, Cal., protested against generalizing from insufficient data. It is absurd, he said, to attempt to decide definitely in a matter of this sort from a few cases. No generalizations can be made short of hundreds of cases, even though most carefully studied. Another point is, the patient likes to be relieved from pain, he begs for it, the doctor is complimented if he can relieve it, ergo he must relieve it. Salicylates of various salts have been shown to be useful to relieve pain. Therefore they are given in very small to enormous doses. The patient is pleased to be relieved from pain; but that is of the smallest relative consequence. The patient can endure the pain not unprofitably; people do not die of pain. He can not afford to have an endocardial lesion the rest of his life. All the evidence shows that these patients recover from the joint affections. They recover if nothing is done for them. The local applications of heat, etc., are useful, perhaps, and the use of congestion produced artificially to increase the opsonic power is good enough, but the joint lesions recover spontaneously; they do not suppurate; they do get well. If the patient does not escape a heart lesion, he is usually left crippled more or less for life. The important thing in treatment is to do the thing that will lessen the danger of that permanent and life-long injury. If salicylates do nothing, are incapable of doing anything to relieve or prevent, then they are of very small consequence. Morphia and other anodyne drugs would do as well as they. If, Dr. Bridge said, as hinted by Dr. Stengel, it is true, or anywhere near true, that the patient is more likely to have a heart lesion with the use of salicylates, then they should be banished from our armamentarium. If it is true, that the alkalies lessen the tendencies to heart complication, then that is the only treatment that is worthy of any serious consideration.

Dr. W. S. Thayer, Baltimore, stated that it is common to regard slight rapidity of the pulse and a soft systolic murmur as an evidence of endocarditis. It is exceedingly common, in the course of typhoid fever, for exactly similar symptoms to develop, and they are almost never regarded as an evidence of endocarditis, because endocarditis is rare in typhoid fever and common in acute polyarthritis. Dr. Thayer suggested that these symptoms might be caused by an acute endocarditis, if it is a vegetative endocarditis, or by marked defect in the valve. It is very unlikely to be caused by the ordinary kind of endocarditis which occurs in rheumatism. The minute nodules along the mitral valve could not produce a systolic murmur. This, then, in most instances, means that there is a slight mitral insufficiency and that it is due to changes in the heart muscle. It may or may not be associated with the endocarditis. It may be associated with a grave myocarditis, which is going to produce very slight effects, but this can be told only by watching and following the case afterward. The only way to find out what acute polyarthritis has done is by following the cases for months or years. One should never allow a case of acute polyarthritis to pass out of his hands without making arrangements to see that patient months afterward, even if there are no signs of cardiac defect.

Dr. Thayer stated that the tonsils are removed because they are believed to be a very common seat of infection from which absorption occurs. It is manifestly absurd, however, he continued, to think much can be done by cutting out tonsils with the guillotine. Anyone who has seen them operated on in that way will be convinced of the necessity of having them removed entirely afterward. The stumps which remain contain the most extensive foci. As to large doses of salicylate of sodium, Dr. Thayer was of the opinion that anyone who has ever had a case of good lively maniacal delirium in cases of polyarthritis treated by too large doses of salicylate of sodium will always leave very careful rules when prescribing it afterward. Dr. Thayer gives the salicylates to relieve pain and until the ears get red.

Dr. Allen Jones, Buffalo, N. Y., said that experience leads one to believe that the cases under discussion are due to ordinary streptococcus infection. He has seen an alveolar abscess followed by a typical attack of so-called rheumatism, and acute tonsillitis is not uncommonly followed by rheumatism, in which cases throat cultures show almost a pure staphylococcus or streptococcus infection. But, he said, there is one decided difference between some cases of polyarthritis and the particular joint disease which for so many years has been called acute articular rheumatism, and that is in the association of chorea. Why is it, he asked, that chorea accompanies this one joint affection? Possibly, after all, there is associated with

streptococcus septicemia some special form of organism which has not yet been isolated. Dr. Jones advised strongly against overdosage of salicylates, and against the use of antipyrin, which, he said, weakens the heart and depresses it after it is already depressed by the disease.

DR. E. M. RICHARDSON, Camden, N. J., has been much interested in the treatment of acute rheumatism by the Bier method of hyperemic congestion. She has used salicylates in their various forms, obtaining marked relief in many cases, but she became particularly interested in the stasis therapy of Bier after hearing one of her confrères report a number of cases in which marked benefit had been derived from this treatment after other attempts to relieve had failed. She asked what causes the sudden improvement. Does the carbon dioxid contained in the venous blood inhibit the growth of the bacteria, or does it act as an antitoxin?

DR. W. W. TOMPKINS, Charleston, W. Va., insisted on the importance of rest in the treatment of rheumatism, and urged that symptoms be treated as they occur. Where there is extreme pain, and where it will not yield to any of the various methods of treatment, he advocates the use of morphia. In many of these cases he thought that the heart troubles probably recur where the joints of the upper extremity are involved, rather than the lower. If a patient has rheumatism in the knee and in the toes and in the wrist he is much more apt to be confined to the bed than when the disease is located in the finger, the wrist and the elbow. Dr. Tompkins regretted that the general practitioner does not have more to say in these meetings, because they can give very valuable data and statistics, inasmuch as the majority of cases are being treated by the country practitioners, not by the city men.

DR. RUFUS I. COLE, Baltimore, Md., stated that while it is possible that a number of varieties of bacteria may be instrumental in causing the condition known as acute articular rheumatism, the evidence so far is convincing with respect to only one germ, the streptococcus. He pleaded for a careful bacteriologic study in all cases where conditions will permit it, more especially in the fatal cases. Dr. Cole agreed fully with Dr. Bridge regarding treatment. It is not the relief of pain in the acute cases which should worry the physician. His mind should be set on preventing those terrible sequelæ which cause hospital wards to be filled with children and young persons suffering from incurable cardiac lesions. The genito-urinary surgeons have been instrumental in teaching us one important point in the treatment of rheumatism, that is, the necessity of treating locally the portal of entry of the infection. It is almost certain, Dr. Cole claimed, that the tonsils represent at least one, and probably the most common, portal of entry. And it must be remembered that very often the patient will deny tonsillar disease, and yet on examination the crypts will be found filled with pus. The analogy between gonorrheal infection and acute articular rheumatism is striking, for at least four well authenticated cases of gonococcal pleurisy have been reported, and skin lesions in gonococcal infections are not at all uncommon.

DR. P. K. BROWN, San Francisco, Cal., emphasized the frequency of myocardial complications, but differed from Dr. Anders as to the age at which they are most commonly found. He finds that the occurrence of very severe myocarditis, such as we find in rheumatism, accompanied by hyperpyrexia or low but long-continued fever, is essentially a thing connected with childhood. He collected from his own records 22 cases of myocarditis in children under 5 years of age, where it persisted for more than six months. He corroborated the statement made as to the necessity of dissecting out the tonsils in certain cases. There are many tonsils, he said, that protrude so far that a guillotine operation is easy and satisfactory. In other cases the tonsils may be as large or larger, and yet can not have more than the surface shaved off with the guillotine, even if the tonsil be pulled forward with forceps.

In case there have been several throat infections in such a case, Dr. Brown considers it wise to dissect out the tonsil and eliminate the possibility of further infection from that source. As to family predisposition to rheumatism in connection with its occurrence and recurrence: In looking over the report in the Massachusetts General Hospital, Dr. Brown found that 25,000 cases were admitted in ten years, and acute articular rheumatism occurred in one case in 25. In New York, among 27,000 admitted to the Roosevelt and Presbyterian Hospitals, there was one case in 16. In the Vanderbilt Clinic, rheumatic symptoms occurred in one out of 12 cases, interesting evidence of the geographic distribution of the disease. This matter of infection of the throat, Dr. Brown said, was called attention to by French authors eighty years ago. Everyone with a rheumatic tendency has convinced himself that unless the source of infection is removed there will be recurrences of the disease sooner or later, because the patients go back to the same conditions from which they came originally, the same occupations, the same exposures, with the same unhealthy and neglected throats. If salicylates in the form of salicylate of sodium do not do good in modest doses, they are not indicated in that particular case, and it is time to look for the joint trouble being due to other things on this list, or to relieve the symptoms in some other way. Dr. Cole stated that kidney complications have followed the use of aspirin (acetsalicylic acid). He has seen a case of acute nephritis following the taking of 40 grains of aspirin (acetsalicylic acid), in four doses, two hours apart.

DR. ALEXANDER LAMBERT, New York City, agreed that myocarditis occurs much more frequently early in life than it does later in life. The changes occurring later in life are of a chronic type. Dr. Lambert does not believe that the salicylates increase the cardiac involvement. In 500 cases observed by him the aortic diastolic murmur was not present in the acute involvement of the heart. Therefore, he knew that he had taken too few cases, and he cautioned against drawing conclusions too quickly. As to the salicylate treatment, he agreed with the speakers who warned against too immense doses. He has seen intense poisoning from 100 grains. He has himself taken 100 to 150 grains and not noticed ringing in the ears. If the salicylate does not affect the patient in 48 hours, it will have no therapeutic effect. One patient will yield to one form, another to another. If analgesics are added in small doses, 5 grains of acetphenetidin, to 1/12 of morphin, the effect is more than four times greater than for either remedy alone.

DR. S. SOLIS-COHEN, Philadelphia, stated that it goes without saying that there must be beyond the general management strict individualization. Purgation by calomel, followed by an alkaline laxative, is useful at the beginning. Fixation of the joints Dr. Cohen considers highly important, whether by plaster-of-Paris or by some less rigid measure, as is his usual practice. Among the local applications which may or may not be good—there is one which was used in Dr. Cohen's wards at the Philadelphia Hospital throughout the winter; that is, saturated solution of magnesium sulphate applied on compresses to the joints, which were fixed by bandages in such a way that the evaporation from the compress went on continuously and the application was renewed as needed. It relieved pain promptly. The same measure was useful in gonorrheal arthritis. As to blisters, Dr. Cohen said that when he spoke of blisters skilfully applied, he did not refer to a blister of 81 square inches. He did not understand how that patient survived, nor would he accept a condemnation of blisters on an experience of that kind. The addition of croton oil seems to have been an unnecessary piling of Pelion on Ossa. He uses a blister one inch square, applied in the region indicated. After the first has been opened, dressed and allowed to heal, another is applied alongside; when this heals another is applied above. The effect is good. Dr. Cohen thought he could guess at its mode of action. There is probably a reflex nervous impression on the cardiovascular centers, with some obscure chemical process, increasing or hastening defensive reactions. He protested against the administration of any of the coal tar group of drugs in the treatment of acute articular rheumatism. There is no need for them. Aspirin (acetsalicylic acid), too, is dangerous; just why, he did not know. He has seen acute cardiac failure in the case of a child who was

given 3 grains of aspirin. According to Dr. Cohen it has no place in the treatment of acute infections. In comparatively small doses, it is useful in chronic painful affections. As to the action of the salicylates in general, he said, the salicyl ion, in whatever form it may be introduced, appears to be a chemical antitoxin. The phenomena of acute articular rheumatism in so far as they are capable of relief by salicyl compounds will be relieved before intoxication with the drug occurs. Its administration should stop when there appears the first evidence of so-called physiologic action. It must stop absolutely for the time and not be repeated until the tinnitus has disappeared.

Some persons can bear hardly one grain and some can take enormous doses. Dr. Cohen has rarely exceeded 90 grains in 24 hours. He prefers sodium salicylate above all the preparations of salicylic acid. The true or natural salt should always be specified, as the synthetic preparations contain irritant by-products and gastric disturbance is, as a rule, owing to these, rather than to sodium salicylate itself. When the patient is weak or subject to recurrences, the addition of iron to the salicylic treatment is highly useful, and may be accomplished by the pharmaceutical expedient set forth in Dr. Cohen's paper. In regard to the tonsil and the throat, he emphasized again that not only the mouth and the throat and the faucial region, but also the nose and postpharyngeal region must be looked into and treated effectively. It is probable that some varieties of the ordinarily harmless flora of these regions become pathogenic under favoring conditions in susceptible individuals.

HEMICRANIOSIS AND CURE OF BRAIN TUMOR BY OPERATION.*

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PHILADELPHIA.

Under the name of *hemicraniose* Brissaud and Lereboullet[1] describe a condition observed by them in two cases—a hypertrophy localized exclusively to a half of the cranium including the face. The first patient had epileptic convulsions. The enlargement of the head was first noticed about the age of two months, and it was slowly progressive and without pain. The patient had no headache, although he complained of a sense of heaviness in the head. His vision was good. He had no vomiting. The interesting feature of the case was the frontoparietal exostosis. The prominence did not extend into the occipital region nor beyond the median line. There was also a supraorbital enlargement of bone, but the rest of the face was not affected. This was purely a clinical case.

The second patient, a woman, had cranial hemihypertrophy dating from childhood, also signs of brain tumor, the latter of two and a half years' duration. She had also exophthalmos. The hemihypertrophy was right-sided, slight in the superior and inferior maxillary bones, more pronounced in the frontal bone, and enormous in the frontoparietal region. The slope of the prominence extended to the other side of the cranium, so that the enlargement was not strictly confined to one-half of the skull. It was hard and painless. The necropsy showed that the entire inner portion of the right side of the dura was covered with tumors of different sizes (angiolithic sarcomata). The largest of these had made a depression for itself in the brain. The inner left side of the cranium was not abnormal, but on the right side of the calvarium the dura was adherent in places, the bone was irregular, and tumors were found within the dura.

In both these cases there was frontoparietal and supraorbital hyperostosis, and in one a slight implication of the face. All the tumors that were found in the second case had their origin in the dura. The authors suppose that the dura which in youth as internal periosteum had contributed to the progressive development of the hyperostosis, after the period of growth was passed, had its activity directed in another way, causing neoplastic proliferation. The unilaterality in both cases was absolute, they say, but the picture they present of the second patient shows very clearly that the slope of the prominence on the top of the head passed beyond the median line. The picture is the reverse of the hemiatrophy of the face of Romberg confined to the distribution of the fifth nerve. The hemicraniosis seems to be almost limited to the distribution of the ophthalmic branch. The dura is supposed by its outer surface to cause proliferation of the bone, and by its inner surface the formation of tumors. Although no operation was performed nor necropsy obtained in the first case, the convulsions suggested the possibility of intracranial tumor.

Parhon and Goldstein have reported a case of hemicraniosis in a woman whose only signs of intracranial disease were hemiplegia and mental depression. An exostosis the size of a walnut was in the right parietal region. When the skull was opened the bony tumor was found to protrude on the inner side of the skull, and it had caused a depression in a tumor of the dura beneath it. The tumor was the size of a small orange and involved the greater part of the motor zone and a part of the frontal lobe. It was circumscribed and distinct from the brain. The dura over it was adherent to the cranium. The calvarium was in general thicker on the side of the tumor. The microscopic examination showed that the new growth was a psammoma or angiolithic sarcoma. The bony tumor was very compact and hard. The authors did not notice carefully whether any hyperostosis was present in the supraorbital and frontoparietal regions. Parhon believed a relation of cause and effect existed between the tumor of the bone and that of the brain, and Babès thinks there is no doubt of this, as the consistency showed that the bony tumor must be very old, and that it probably caused the psammoma by the constant irritation of the meninges. Babès, in discussing the case at a meeting, spoke of its importance, as it was the first time he had seen a tumor of one nature give origin to another of an entirely different nature. The case of Brissaud and Lereboullet and that of Parhon and Goldstein are the only cases of hemicraniosis with anatomopathologic examination in the literature, Parhon and Nadjede[2] assert, and these authors add a third case.

Their patient, a woman aged 63 years, had apoplexy and remained left hemiplegic, but the clinical history is very incomplete. At the necropsy the dura was found adherent to the anterior part of the calvarium, and in this area a bony prominence was detected the size of a nut in the middle and posterior part of the right frontal bone. There was no enlargement on the external surface

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1. Revue Neurol., June 15, 1906, p. 537.

2. Revue Neurol., Nov. 15, 1906, p. 1017.

of the skull. A tumor the size of the half of a small orange was found growing from the dura over the prefrontal lobe beneath the bony prominence. Microscopic examination showed that the growth was an angiolithic sarcoma or psammoma.

The authors confess ignorance concerning the etiology of this condition, why the proliferation of the cranium should occur, and especially in its anterior portion, as a result of the activity of the external portion of the dura, and why from the activity of its inner portion origin is given to psammomata. In the case of Brissaud and Lereboullet there were multiple tumors, but in the other two cases the tumors were solitary.

Whether this hemicraniosis is essentially different from exostosis of the upper part of the cranium, such as is described in the recent paper of von Eiselsberg,[3] is, I think, open to question.

A case of endothelioma invading the skull, not unlike my first case, has recently been reported by Barling and Leith.[4] The bone over the center of the tumor in the brain for an area of about three-quarters of an inch was slightly thickened. Apparently hemicraniosis was not perceptible in this case. Endothelioma growing from the dura and deeply indenting the brain may exist, however, without causing thickening of the skull, and I have such a specimen in my collection.

In reporting two cases of hemicraniosis I may call attention to the fact that the notes of my first case were read at a society meeting in 1899,[5] but the proceedings of this society are not published.

In both my cases the enlargement was on the left side, and in one case was strictly unilateral and in the other almost confined to one side, although it implicated the other side of the cranium to about the same extent as did the enlargement in the second case reported by Brissaud and Lereboullet. In both my cases an endothelioma was found growing from the dura and pushing the brain before it. In both operation was attempted, but in the first case the bone of the cranium was so implicated by the tumor, and hemorrhage on this account was so profuse that all attempt to remove the tumor had to be abandoned. The disappearance of nearly every symptom after the first operation when the skull was opened in the second case was the result of decompression, and relief was obtained for several months. I think it a fortunate thing that the dura was not incised at the first operation, as the tumor would then have been discovered and its removal attempted. The time given to the patient for complete recovery after the first operation made him more vigorous to endure a second, and the tumor was removed later with comparatively little danger to the patient. The cranium in my second case was very dense, but was not infiltrated by tumor; had it been, as in the first case, the result of operation would have been grave.

Disappearance of all symptoms after removal of a brain tumor is exceedingly rare. The most successful case in my own experience previous to the one I now report was that of a parietal tumor reported by Dr. C. K. Mills, Dr. W. W. Keen and myself. This patient I saw in consultation with Dr. Mills a number of times, and improvement lasted about four years after the removal of the tumor, but recurrence then occurred and a second operation proved fatal. The hemiplegia in this patient never disappeared entirely.

3. Archiv. für klin. Chirurgie, vol. lxxxi, p. 1.
4. Lancet, Aug. 4, 1906, p. 282.
5. The Section on General Medicine of the College of Physicians of Philadelphia.

In one of the cases[6] I now report almost every symptom disappeared since the second operation. The patient's speech is very nearly or fully normal, if he does not talk too rapidly; he has no hemiplegia, no optic neuritis, no disturbance of writing, little or no paresthesia of the hand, little or no abnormality of gait, and no exaggeration of the patellar reflexes.

In a recent discussion on cerebral and spinal tumors Krause[7] remarked that true recovery from brain tumor after operation is always very rare. Schultze reported that in 19 operations performed on 97 cerebral tumors only once recovery occurred, lasting a few years after the operation, and the case was one of cerebellar tumor. Oppenheim has had 27 cases of tumor of the brain with operation since 1903. Of these 3 were with cure, 6 with temporary improvement, 15 with fatal termination. Bruns says he has never had entirely satisfactory results in operation on brain tumors, and von Monakow has had only one successful case, and in this the tumor was in the motor region. Horsley, at the meeting of the British Medical Association in Toronto, in 1906, exhibited the photographs of a patient from whom a cerebellar tumor had been very successfully removed some time ago.

A case of brain tumor with disappearance of the symptoms after operation has been reported by Oppenheim and Krause.[8] The patient had right hemihypoesthesia, hemiataxia, hemiparesis, hemianopsia and headache. A tumor was removed from the occipital lobe. Two months later the patient had merely some difficulty in reading and the visual field of the right eye was a little contracted.

A still more brilliant case of cure of brain tumor by operation is one described by Oppenheim and Borchardt,[9] in which a tumor the size of an egg was removed from the cerebello-pontile angle. The symptoms, which were very grave, gradually disappeared after the operation, and eight months later the patient could be pronounced cured.

In both my cases a history of head trauma was obtained; in the first it occurred about eight years before the enlargement of the head was noticed; in the second only a short time previously. It is not improbable that these injuries were at least the predisposing cause of the bony proliferation.

The presence of tumor now in five cases of hemicraniosis with operation or necropsy, and probably also in the clinical case of Brissaud and Lereboullet, should make one fear that any pronounced local thickening of the cranium is likely to be associated with a tumor

6. Note in correcting the proof Oct. 31, 1907: During the past few months the swelling on the head directly in front of the opening in the skull increased markedly, and on Oct. 22, 1907, a convulsion confined to the right upper limb and right side of the face occurred. It is not known whether the right lower limb was affected or not. An operation was decided on. The swelling was well defined superficially, but was adherent to the bone. The bone beneath it was about one-half inch in thickness and softer than normal bone. It was easily cut with a knife, so that the outer portion was removed with the tumor. The latter was firm and fibrous in appearance. A large tumor was found beneath the dura. It was very soft, and was entirely removed with a spoon. The cavity was lined by the cerebral cortex, the convolutions of which could be seen at the upper margin. It measured 1¼ inches in depth, 2½ inches from before backward, and 3 inches from above downward. The piece of dura from which the tumor had grown was found and removed. Microscopic examination showed the tumor to be an endothelioma. The operation was performed by Dr. C. H. Frazier. The patient made a rapid recovery, was not in danger at any time, had no symptoms of cerebral disease, and left the hospital ten days after the operation.
7. Monatsz. f. Psych. u. Neurol., January, 1907, p. 67.
8. Berlin. klin. Wochenschr., Dec. 17, 1906.
9. Berlin. klin. Wochenschr., July 15, 1907, p. 875.

growing from the dura, and operation should be attempted as soon as cerebral symptoms become manifest. It may be possible to remove the tumor in this way while it is yet small. Fortunately, this local thickening of bone is usually over or near the motor area of the brain, so that the symptom-complex is distinct, and the tumor growing from the dura is not likely to infiltrate the brain. Operations on these dural tumors are especially serious because of the severe hemorrhage, and they might be more successful if done in two stages.

The absence of all those symptoms which are frequently attributed to lesions of the left frontal lobe, in my second case after a large tumor had been removed from this lobe, is striking. The patient is a man engaged in a large and important business, and is as capable of performing his duties now as at any previous time. There is no failure of judgment, intelligence, power of attention, concentration of thought, memory, or of any of the intellectual functions. The tumor acted by pressure, not by infiltration.

To what are we to attribute the transitory aphasia, agraphia and hemiplegia following the second operation? Pressure on Broca's area explains the first very readily, but if we accept Marie's views we must assume that pressure was exerted on the lenticular nucleus, which was remote from the seat of operation. It is difficult to attribute the disturbance of speech and writing that developed shortly before the second operation to pressure on the lenticular nucleus, because the motor cortex or subcortical motor fibers were between the tumor and the lenticular nucleus, and the hemiparesis was not so intense as the speech and graphic disturbances, indicating that the centers or fibers of motion for the limbs were less implicated than those of speech and writing.

The first case is as follows:

Case 1.—J. T., aged 47, male, came to my service at the Polyclinic Hospital in the beginning of 1899.

History.—His wife had not had any miscarriages or stillborn children, and no history of venereal disease was obtained. He had taken iodids without benefit.

The following notes were read by me before the Section on General Medicine of the College of Physicians of Philadelphia, May, 1899, and the title of the paper appears in the Transactions of the College for that year, p. 191. It was my intention to publish promptly these notes in full in association with the very complete report of Dr. T. S. Kirkbride, Jr., which follows, but the sad death of Dr. Kirkbride delayed the publication of them and made me lose interest in the case.

At the last meeting of the section (April, 1899) I presented a patient who was partially paralyzed on the right side of the body and had exostosis of the cranium. My object in doing this was to exhibit the man before operation was performed. The patient said that his right hemiparesis had developed after influenza; that he had been very much better until he had had another attack of influenza, when his paresis increased. I found later that his statements were not reliable, and that his memory was poor. His wife was not very intelligent and was not of much service in obtaining a correct clinical history. An intimate friend of the patient gave me the important details:

About sixteen years ago the man struck his forehead in descending a staircase. The severity of the blow can not be determined, but it was sufficient for the blow to be remembered after sixteen years. About eight years later the patient noticed that his head was becoming enlarged, and it is probable that the head had increased in size before the man's attention was called to it. About three or four years ago he began to have paresthesia in his right toes, and he examined these parts frequently in order to detect a sore of some kind, but none was found. The symptom was probably indicative of the beginning cortical lesion. At the same time his right leg began to grow weak, and after a year or two he felt similar paresthesia and weakness in the right upper limb. A few months ago he had his first and only attack of eleptiform convulsions. His wife awoke and found him in general convulsions and unconscious. One day in the summer of 1898 he was aphasic for ten minutes, and was unable to say a word, but was entirely conscious. He had had similar attacks previously, less pronounced. This temporary aphasia was probably a sign of pressure affecting the speech area, and the convulsions were indicative of cortical irritation. He had not suffered to any extent from headache, nausea or vertigo. About a week before the operation, however, he began to have nausea and considerable headache.

Examination.—When he was presented at the last meeting of the section he was hemiparetic on the right side, but the face was not distinctly involved, objective sensation was intact, the patellar reflexes were exaggerated, especially that on the right side. The memory was poor, the station was good, the patient was partially aphasic. He knew the word he wished to say but was often unable to utter it, and was obliged to select other words than those which best expressed his meaning; to this extent he was paraphasic, but he had no true paraphasia, no jargon aphasia of the English writers. He did not mix the parts of speech without regard to the proper position of nouns and verbs; all he said was perfectly intelligible, and this is comprehensible from the fact that the necropsy showed that the speech area was only involved by pressure. The exostosis of the cranium was very striking. It began above the line of the hat brim on the left side in the area of the left temple, extended backward over the left Rolandic area and crossed the median line. The pupils were equal and the reaction to light and accommodation was good. Dr. Hansell reported that the man had bilateral optic neuritis going on to atrophy with limitation of the visual fields for form and color, and later he stated that the disease of the optic nerves appeared to be a chronic rather than an acute process.

Summary of Case.—In brief, the important features of the case were these: A blow on the head sixteen years ago; enlargement of the left side and upper part of the skull extending over the left Rolandic area, first noticed by the patient about eight years ago; paresthesia and weakness in the right lower limb developing three or four years ago; a similar condition appearing in the right upper limb a year or two later; symptoms of aphasia, failure of memory, epileptiform convulsions, exaggerated patellar reflexes, bilateral optic neuritis of a chronic type, and later nausea and severe headache. The case seemed to me one entirely suitable for operation. Some disturbance of the sense of position in the right foot, the aphasic symptoms and the convulsions indicated a cortical lesion of some kind and the external bony enlargement suggested the possibility of a similar growth on the inside of the skull pressing on the leg center, for the cortical lesion evidently began in the leg center. The right-sided paresis was not complete paralysis, the intellect was not much impaired, and the general health was excellent. The symptoms were undoubtedly those of intracranial pressure.

In addressing the students of the Polyclinic Hospital before the operation was begun I said that we could not be positive that a bony growth would be found on the interior of the skull exactly similar to that on the outside, but that the existence of such a growth was quite possible and would explain the symptoms; that the most we could say was that the man had signs of focal intracranial pressure in the upper part of the left Rolandic area and that operation was demanded.

Operation.—Dr. Max J. Stern and Dr. John B. Roberts examined the patient and an operation was performed, April 15, 1899, by Dr. Stern, assisted by Dr. Roberts. A large bone flap was raised in the region of the thickened bone, but the hemorrhage was so profuse that the operation was stopped without any further attempt being made to remove the tumor, and the patient died about two hours later from loss of blood.

AUTOPSY.

The necropsy was performed by the late Dr. Kirkbride, and the following notes were read by him in May,

1899. (Examination of head only. A complete autopsy was refused by the relatives of the patient.):

The scalp of the vertex, on removal of the dressings covering the head, is seen to have been turned back at the operation in a large flap with the base posteriorly. The under surface of the flap is, in the left parietal region, considerably lacerated, evidently owing to the breaking up of firm adhesions between the pericranium and the bones of the skull. In the same region the tissues of the scalp are indurated, there being marked increase in the fibrous tissue between the bundles of which there are here and there small spicules of bone. The vault of the cranium has been removed at the operation in a large oval area about 9x12 cm. in size, with the center slightly to the left of the middle line. The portions of bone removed at the operation vary in size from 0.9 to 2.5 cm.; the largest is 10.5 cm. long by 4 cm. broad. On the outer surface of this piece there are irregular, partly nodular exostoses, some firm and closely adherent to the underlying bone, others honey-combed and friable. Shreds of pericranium adhered to the central portion of the outer surface of this fragment. The inner surface is in its central portion distinctly convex and is uneven, with shreds of dura still adhering. Where the dura has been torn away the bone has a honey-combed appearance. On sawing through the fragment the cut surface shows an almost uniformly indurated bone, the location of the diploe appearing simply as an indistinct band of darker color and less firm consistence between the more compact outer and inner tables which are greatly thickened. The smaller fragments of excised bone resemble the one just described, but are in general thinner and with less evidence of adherent pericranium and dura. On the inner surface of one of these smaller pieces there is a nodular exostosis measuring 4x6 mm. and projecting 3 mm. from the surface.

The remaining portion of the vault of the cranium removed at the autopsy presents no abnormalities, the impressiones digitatæ are not deep.

The dura is throughout somewhat more than normally adherent to the bone. It presents an uneven, lacerated appearance in an irregular area measuring 5.5x7.5 cm. located over the upper left motor region and extending 1 to 2 cm. beyond the middle line on the right (seat of operation). The membrane is here of a dark red color and appears much thickened. In the surrounding portions of the dura there are scattered spots of bright red color (hemorrhage) and throughout the membrane is moderately thickened. Over the right hemisphere the dura is not adherent except along the central portion of the longitudinal fissure, and here it is easily detached. In the adherent portion are several small bony formations. The dura of the left hemisphere appears to be firmly adherent over a considerable area and is therefore left in place. On the surface of the dura about 3 cm. in advance of the middle portion of the Rolandic fissure is a nodule of bone measuring 1 cm. in length and 0.5 cm. in width. The cerebral cortex is slightly depressed by this bony formation. On the left surface of the falx immediately below the collection of small bony growths mentioned in connection with the right hemisphere, there is a thin lamina of bone 1 cm. long resting against the median surface of the left hemisphere. Directly posterior to this, also on the left surface of the falx, is a similar bony plate measuring about 2 cm. in length and 1 cm. in width. The longitudinal sinus is much narrowed where it is included in the region of thickened dura; it is patulous, however, and contains no thrombi. The removal of the brain shows the apices of the temporal lobes adherent to the dura; in the same region the impressiones digitatæ are unusually deep, otherwise the base of the skull is normal.

The brain and the posterior half of the left eye were removed and placed in 7 per cent. formol.

The brain preserved in formol: The right hemisphere, except for the adhesion of the dura already noted, appears normal. Over the left hemisphere there is an area of marked depression 4 cm. in width and 3 cm. anteroposteriorly, which in its posterior portion encroaches on the upper part of the Rolandic fissure and which extends on the right as far as to the longitudinal fissure. The dura appears in this area to be firmly adherent to the cerebral cortex. The portion of dura apparently adherent to the cortex is more extensive than the area of depression, measuring 7 cm. anteroposteriorly by 5 cm. laterally. Careful examination, however, proves that the apparent adhesion to the cortex is in reality the broad pedicle of a tumor arising from the dura itself and projecting far into the substance of the brain which has been pushed aside and compressed so as to form a deep socket in which the tumor lies. The pedicle measures 7 cm. anteroposteriorly by 5 cm. laterally. On turning back the dura the tumor is seen to project on the left fully 1 cm. beyond the margin of the pedicle and it here appears as a convex grayish, firm gyrus-like mass beneath the pia mater; indeed, the resemblance to the neighboring convolutions was so marked that this portion of the tumor was at first mistaken for a convolution infiltrated by extensions of the tumor. Anteriorly and posteriorly the tumor projects but little beyond its attachment to the dura. On turning back the falx, a portion of the tumor covered only by the pia is visible on the median aspect of the hemisphere. This exposed surface of the tumor is irregularly semicircular in shape, measuring anteroposteriorly 4.5 cm. and extending downward in its broadest part fully 2 cm. below the circumference of the hemisphere. Everywhere at the margins of the socket in which the tumor lies the pia mater can be seen dipping down between the tumor and the cortex. (Figs. 1 and 2, page 2065.)

Position of the tumor: The fissure of Rolando, if not distorted, would in its upper portion pass through the center of the tumor. It occupies a little more than one-half of this fissure. The division of the left hemisphere in a frontal plane through the center of the tumor shows the latter to be much larger than appears from the surface. It is an oval mass, flattened on its upper surface, measuring 6 cm. transversely, and projecting downward into the hemisphere fully 4 cm. from the level of the dura. This measurement does not, however, represent the total encroachment on the brain substance, for, as already mentioned, the upper surface of the dura (i. e., of the tumor) is in this area concave, adapting itself to the convex inner surface of the greatly thickened skull. The socket of brain substance in which the tumor rests is lined by pia mater, beneath which a narrow band of gray matter indicates the position of the greatly compressed cortex which the tumor has evidently pushed before it in following by its growth the lines of least resistance. Beneath the center of the tumor, where the compression has evidently been most marked, the gray matter has almost entirely disappeared. On the median aspect of the tumor the compressed cortex tapers to a sharp edge, above which the tumor lies directly beneath the pia mater as already noted. The tumor itself appears on the cut surface of a grayish-white color. Its consistence is moderately soft except where in the upper central portion it contains bony particles. In this part the surface appears more compact and evenly granular, while below and at the margins projecting beyond the pedicle its formation is looser and more sponge-like. The surface is rather dry and mealy.

The uppermost part of the ascending parietal convolution appears to have been compressed by the tumor and is diminished in size. The second and third frontal convolutions are not involved and the area of Broca seems also to be intact. The median and middle portion of the left hemisphere is convexed (on its median aspect) by the pressure of the tumor, while the median and middle portion of the right hemisphere is concave and adjusted to the convexity of the left. The gyrus fornicatus of the left hemisphere extends almost completely across the free surface of the corpus callosum. The posterior horn of the right ventricle is two or three times larger than that of the left. The aqueduct of Sylvius is very slightly enlarged. The right side of the optic chiasm is much flattened from below upward with the concavity on the lower surface. The left side is normal in shape. The right optic nerve near the chiasm is possibly one-fourth smaller than the left.

The following notes on the ocular findings are from Dr. E. A. Shumway:

The posterior portion of the left eye submitted for examination was embedded in celloidin and cut in sections parallel with its horizontal meridian. Transverse sections were also

made through the optic nerve posterior to its entrance into the globe. The latter show very slight changes in this portion of the nerve, the intervaginal space being slightly dilated and the endothelial cells lining the processes of the arachnoid being increased in number. The nerve fibers have retained their myelin sheaths and show no evidences of atrophy. The meridional sections show a swelling of the nerve head, within the lamina cribrosa, which reaches an elevation of 1.00 mm. above the level of the chorioid. The retina at the optic nerve entrance is detached, somewhat folded, and is separated from the underlying chorioid by a layer of thickened nerve fibers. The non-medullated nerve fibers are swollen, show well-marked varicosities, and are separated from each other, evidently as the result of pre-existing edema. This condition of the fibers can be followed for some distance in the neighboring parts of the retina. There is a moderate infiltration with cellular elements, which are assuming a spindle shape, and indicate the beginning of a connective tissue formation.

The retina is detached throughout the specimen, and the layer of rods and cones shows postmortem changes. The nerve fiber layer is thickened, edematous, and the fibers of Müller show marked hypertrophy in places, producing irregular elevations on the outer surface of the membrane. No hemorrhage is present in either retina or nerve.

The chorioid is very densely pigmented. At a point 5 mm. to the nasal side of the optic nerve entrance is a deeply pigmented growth, which measures 6 mm. in its greatest vertical, and 4 mm. in its greatest horizontal diameters, and 0.9 mm. thick. It is composed largely of pigment cells which are evidently proliferated stroma cells, but shows also a large number of non-pigmented and round spindle cells with large, deeply staining nuclei, closely packed between the chorioidal vessels. The growth has apparently sprung from the posterior layer of the chorioid, but the cells have infiltrated the anterior layers, containing the smaller capillaries. The pigment cells of the retina pass over its surface undisturbed, and the retina shows no evidence of inflammatory reaction. In the neighborhood of the growth the chorioidal vessels are widely distended, and both the vessels and the chorioidal stroma show a slight leucocytic infiltration. The growth is therefore to be diagnosed as a melanosarcoma of the chorioid.

Diagnosis: Papillitis with swelling of the nerve head 1 mm. above the chorioidal level; moderate circumpapillary retinitis; beginning melanosarcoma of the chorioid.

This finding of a melanosarcoma of the chorioid by Dr. Shumway in association with an endothelioma of the cerebral dura is interesting.

Case 2.—A. B., male, aged 42, was referred to me June 28, 1906, by Dr. H. C. Westervelt, when the following notes were made. He had been under the care of Dr. J. I. Johnston.

Chief Complaint.—An enlargement in the left parietal region; right-sided weakness, staggering to some extent; some motor aphasia, with slow indistinct speech, possibly sensory aphasia.

History.—Six or seven months ago he observed a gradually increasing swelling in his cranium over and anterior to the left parietal region. This was accompanied by severe left-sided headache. Several weeks later he found himself unable to articulate correctly and stammered and mouthed his words indistinctly when speaking. There was no weakness in the arms or legs, but he has felt numb in his right arm and leg, and occasionally staggers rather badly when walking. Otherwise there have been no sensory disturbances. His sight, so far as he knows, is good, but he can not read well, as gradually the lines appear to waver on the page. His memory is not nearly so good as it was; when speaking he has definitely in mind what he wants to say, but is slow in getting words to express himself, and then speaks hesitatingly and with apparently great effort. His voice, he believes, has grown weaker. He has no defect in hearing. About two months ago, he was at Mt. Clemens for five weeks, where he underwent treatment. After he returned, he had hypodermic injections of bichlorid of mercury followed by inunctions. With this treatment he thinks the tumor in his head lessened in size and that his speech and memory improved to some extent. But during the past four weeks he thinks they have grown worse again.

Examination.—His bowels are constipated, appetite is poor, tongue coated, and he has lost 15 pounds since January. He sleeps well. Occasionally there is some pain over the affected part of his head. No tremors or convulsive movements have occurred in face, arms, or legs. On admission to the hospital, temperature, pulse and respiration are normal. His wife says that in the beginning of the present disturbance he staggered in walking like a drunken man, and at times (lasting 15 or 20 minutes) seemed utterly unable to speak. Physically, he is well developed, somewhat poorly nourished, flabby; with very moderate panniculus adiposus. On the left side of his cranium, extending forward from above and behind his left ear there is an extensive, gradual swelling, hard and not painful to touch, producing slight asymmetry of his head.

Eye examination by Dr. de Schweinitz, June 30, 1906: Pupillary reactions are normal. Extraocular muscles are normal. In extreme outward rotation on each side there is very slight oscillation of the eyeball of each eye. Fundus shows no evidence of optic neuritis. There is slight over-fullness of the retinal vessels. Color perception normal on both sides.

On looking at the ceiling the wrinkles in the right side of the forehead are not quite so distinct as those in the left. In closing the eyes the furrows about the right eye are not so deep as those about the left, but there is no weakness of the orbicularis palpebrarum. When the face is at rest the right corner of the mouth droops a little, and the right nasolabial fold is not quite so distinct. In showing his teeth the right nasolabial fold is not so deep as the left. He can not draw up the right corner of the mouth separately nearly so well as the left. Speech is somewhat thick, and while he speaks without any great interruption, he has evidently at times difficulty in getting the word he wants. His memory is poor. There is no history of diplopia. The tongue deviates to the right when protruded. The extraocular muscles seem to be very good. Pupils are not quite equal, the right being a little larger than the left. In looking at a near object the pupil dilates in each eye; in looking into space the pupil of each eye at first contracts distinctly and then dilates. Reaction to light is prompt in each eye, as is also contraction in convergence. A little involuntary jerking occurs occasionally on the left side in the lower part of the face. (Dr. Jones says he has had this facial tic since he has known him, 23 years.)

The swelling above and in front of the left ear is very distinct and large. He winces a little when the tumor is palpated. He has had a little vomiting at times, probably due to iodida. He has neither word blindness nor word deafness. Sensations for touch and pain are normal in both sides of the face.

The grasp of the right hand is fair, but not so good as that of the left. He has been a right-handed man, and he has noticed that the right hand has become a little weak. Sensations for touch and pain are normal in each hand. Stereognostic perception is normal in each hand. Biceps and triceps reflexes are distinct on each side, a little prompter on the right. Sense of position is normal in the fingers of each hand. Resistance to passive movement is a little weaker in the right upper limb. Patellar reflex is prompt on each side, and exaggerated a little on the right. Standing erect with eyes open he sways a little, and the sway is not distinctly increased by closing the eyes. The gait is very good with eyes open or closed. Slight indication of ankle clonus is detected on both sides, but no Babinski. Sensations for touch and pain are normal in each foot. Achilles jerk is prompt on each side, and about equal. He can not take solids because of bloody purging.

July 3, 1906: He was observed stumbling again to-day, as he did a few days ago. He is in a very excitable state and is a little unstrung. He is now eager for operation to rid him of his symptoms. Speech is, if anything, more indistinct than before. Weakness in the right upper and lower limbs is not more marked, but he sometimes carries his right arm while walking, as if he were afraid of hurting it.

July 5, 1906: He was asked to write a letter, but after writing a few words stopped and was not able to go on. He is getting very nervous and has the greatest difficulty in articulating.

July 7, 1906: Transferred to Dr. Frazier's service for operation.

Operation.—A section of bone comprising the outline of the tumor mass was removed by means of trephines and chisels. It was greatly thickened. The dura was found somewhat thickened, but was not opened, as the abnormal thickness of bone seemed to be sufficient to account for the symptoms. The man made an excellent recovery from the ether and was only slightly nauseated. Microscopic examination of the bone removed showed no appearance of tumor cells.

Subsequent History.—The patient made almost a complete recovery, attended to his business as formerly, and seemed well, but had some return of symptoms a few months later.

Sept. 4, 1906: He yawns much. The site of the operation is depressed and tender to touch. His right hand feels as though it were asleep and is numb. His speech is a little thicker than at his last examination, but he has no aphasia. The grasp of each hand is good. It requires a little effort for him to draw up the right corner of the mouth.

Oct. 23, 1906: His speech has become affected, is slow, and a little thick. He has much headache and is weaker than he was, but is not dizzy.

Nov. 10, 1906: The speech is much worse than it was ten days ago. He can say short sentences, but so soon as he attempts to tell anything, he becomes much confused and many words he can not speak. If he speaks slowly and is not excited he can make himself understood. He can not write correctly, as shown by the letters he attempts to write to his wife. He has had severe headache for the past few mornings. The grasp of each hand is fair. He has had difficulty in walking downstairs during the past two or three weeks. Resistance to passive movements is good in the lower limbs. The patellar reflex is exaggerated on each side, more so on the right side. The mental condition is good. It was evident that some lesion was developing at the site of the former operation, and fearing tumor, I referred the patient again to Dr. Frazier.

Second Operation.—An operation was performed by Dr. Frazier November 17. The old skin flap was opened. Bleeding was very profuse. The dura was cut and a tumor was found in the center of the opening. It was shelled out, although in so doing the forward part, which extended beyond the original opening, was broken, and was taken out in fragments. (Fig. 4.) Its position must have been above Broca's area and in front of the central fissure.

Result.—The patient was completely paralyzed on the right side and completely motor aphasic as a result of the operation. He began to recover the power of his right limbs within a few days, and within four or five days he had recovered almost as much power as he had before the operation, when he showed slight hemiparesis. After a few days he could say "Yes," "No," and one or two other short words. Gradually he became able to add a few more words, and those he said were usually distinct. On November 23 he was able to say a number of words in repeating after the examiner, and a few spontaneously, but he could not put words together. He occasionally said two or three words with great difficulty. He was perfectly intelligent and not at all word deaf. He showed no intellectual defect. He could not write except that he managed to write, "Look at them." He read and obeyed five simple commands, when written, such as: "Put your right hand on your ear." He was not ataxic, and recognized words in the newspaper (Fig. 5).

Dec. 1, 1906: There is some weakness of the right muscles of mastication, the tongue deviates a little to the right, the right side of the face in the lower distribution is a little weak. Motor speech is still disturbed but is much better. He can say sentences and make himself understood, but many words he can not get and his sentences contain only a few words. The grasp of the right hand is hardly weaker than that of the left and is about normal. He picks up small objects with his right hand without difficulty. The sense of position and stereognostic perception are normal. The power in each lower limb is normal. The patellar reflex is prompt on each side, a little more so on the right. Two or three days after the operation he was able to communicate with his wife by pointing to letters she showed him so as to spell words.

Dec. 18, 1906: The speech is greatly improved and only occasionally he has difficulty in getting a word, but his words are sometimes indistinct. His mentality has in no way been impaired. There is still a little weakness of the lower part of the right side of the face. He complains of some numbness of the right thumb and of the right upper lip and right gum. There is a little swelling over the seat of operation, but this is not distinctly painful. The grasp of the right hand is excellent. He has no disturbance of stereognostic perception in the right hand. Both patellar reflexes are prompt, the right more so.

The opening in the skull according to Anderson-Machin lines is ⅝ inch behind and 2¼ inches in front of the fissure of Rolando. The opening at its greatest width is 3 inches (Fig. 6).

Dr. de Schweinitz reported Dec. 19, 1906: "The slight edema of the nerve head, the so-called edematous optic neuritis, which I observed when last I saw the patient, has entirely disappeared and vision is absolutely normal. I made some suggestions in regard to a change in the use of his glasses, which I hope will be of service. There are no muscular anomalies, and the field of vision is normal."

Dr. de Schweinitz' previous report, without date, but made after the patient had entered the hospital for the second operation, and probably just after the operation, to which he refers, is as follows: "V. 4/4. No diplopia; some nystagmus in outward rotation; slight but distinct optic neuritis, more in the right eye; veins very full; temporal edges not yet involved."

Jan. 22, 1907: Speech is still thick, but the man says all that he wishes to. Both patellar reflexes are a little prompter than normal. The tongue is protruded straight. The lower part of the right side of the face is a trifle weak. The grasp of each hand is excellent. He feels splendidly. The numbness in the right hand has disappeared except in the thumb. He has no headache and no vertigo. Stereognostic perception is normal. He says that a year and a half ago he received a severe blow against a beam at the region where the enlargement of the head occurred. This information was not obtained previously. He was nearly unconscious from this. If he speaks slowly he speaks distinctly.

March 28, 1907: He has been feeling so well he did not think it necessary to see me. Very slight weakness of right lower part of face may be detected. Grasp of the right hand is normal. The patellar reflex is about normal on each side. Gait is normal. A note from Dr. de Schweinitz of this date is as follows: "Vision is normal and there are no ophthalmoscopic lesions in the eye grounds; perhaps a little over-fulness of the retinal veins. Pupil reflex normal; no diplopia. No change in the right field; moderate concentric contraction of left field. Slight reduction of light sense (6/10)."

[THIS ARTICLE IS PART OF A SYMPOSIUM. THE DISCUSSION WILL APPEAR WITH THE OTHER PAPERS LATER.]

Odorless Chamber Crematory.—In *Hygiène Gén. et Appliquée*, September, Thierry and Bréchot give an illustrated description of what they call a "domestic incinerator" for destroying by fire all infectious material in the sick room, both fluids and solids, without the slightest odor in the room. It consists of a jar with a capacity for 10 liters above the grating and 5 liters of fluid below. The cover fits into a rim of sand, and the jar has an outer covering of asbestos. The patient uses the jar for stools if able to get up; if not, the bedpan is rinsed out each time before he uses it with half a glass of very soapy water, which prevents anything sticking to its inner surface. Two openings in the jar near the bottom and top are connected by pipes with a can of gasoline. To cremate the contents of the jar the cover is replaced by a covered gasoline burner. There is also a contrivance for a gasoline flame in the lower part of the jar. The burner cover ends through a large pipe carried into the fire place. The fluids are rapidly evaporated and the infectious material, dressings, stools and the sawdust (used as an absorbent) are speedily reduced to ashes, the entire process being complete in less than an hour when the jar is filled to its utmost capacity with 5 liters of fluid. The apparatus, they state, has proved satisfactory in every respect.

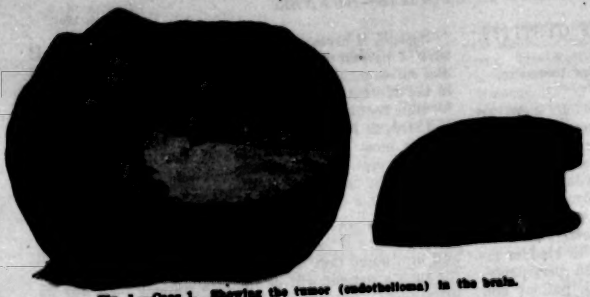

Fig. 1.—Case 1. Showing the tumor (endothelioma) in the brain.

Fig. 2.—Case 1. Showing position of the tumor attached to the dura.

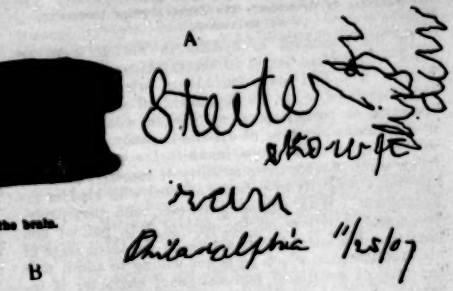

Fig. 3.—Case 2. A, writing done with the left hand 3 or 4 days after the second operation. The right hand could not be used in writing. B, writing on eighth day after the second operation.

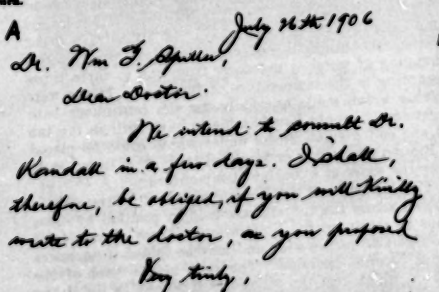

Fig. 5.—Case 2. A, writing 10 days after the first operation. The man could not write at all for some time before the operation. B, writing 14 days before the second operation.

Fig. 4.—Case 2. Tumor removed.

Fig. 6.—Case 2. Tracing of photograph showing the position of the bone flap.

ILLUSTRATING ARTICLE BY DR. WILLIAM G. SPILLER.

THE TUB-BATH TREATMENT OF CYSTITIS.

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In the treatment of cystitis in women there are three well-marked stages in the experience of the physician. The first stage includes a brief period, usually associated with the treatment of cases of postoperative or postpuerperal cystitis, in which he confidently thinks any case of cystitis is easily cured. The second stage soon develops, in which the would-be benefactor sorely doubts the possibility of successfully treating even a majority of patients afflicted with bladder inflammation. With patience, however, and persistence, two essential virtues on the part of both patient and physician, the latter finally arrives at the third stage of his experience, in which he is not willing to admit that any case of cystitis of non-malignant character is incurable.

It is not my purpose to discuss the best methods of treatment for the different forms of cystitis. With a disease of such varied etiology and protean manifestation the successful practitioner is the one who accurately determines the cause and extent of the disease and patiently follows its every change, and who is willing, when baffled on one line of treatment, to adopt another. I wish to contribute to this important subject a method of treatment which for some cases has proven invaluable, namely, the use of the tub bath. This generally includes the making of a vesicovaginal or a suprapubic fistula and the use of a continuous irrigation.

The bath treatment of surgical wounds is an old therapeutic measure, but the use of the continuous tub bath, in which the patient is immersed for hours, is of comparative recent origin. In the *Johns Hopkins Hospital Bulletin* for January, 1898, Dr. J. F. Mitchell reported a case of fracture of the pelvis complicated by extraperitoneal rupture of the bladder successfully treated by operation and the continuous bath. He mentioned two similar cases in which the continuous bath was used, one reported by Rose in 1891 and one reported in 1896 by Weisinger. The tub bath was used in these cases to insure more perfect drainage of the extravasated urine rather than for the treatment of the bladder itself.

After seeing in the Johns Hopkins Hospital the great value of this method of treatment in many forms of surgical disease, and after trying various forms of apparatus for the comfort of patients with vesicovaginal fistulæ, it was but a natural step to make use of the continuous bath for their welfare. It is applicable for the patient with artificial vesicovaginal fistula made for the purpose of drainage, as well as for the unfortunate case of accidental or traumatic fistula.

Its praiseworthy features are numerous. First, it makes the patient comfortable. Few patients are so miserable and so utterly obnoxious to themselves and their friends as those with a long-standing traumatic fistula, unless it be those with artificial ani or fecal fistula; and these latter can often control the unnatural portal with its excretions much more successfully than the patient with a vesicovaginal fistula. These patients often enter the hospital in an anemic and nervous state, due to the suffering caused by the severe inflammatory condition of the pudendal region and thighs and the consequent loss of sleep, disturbances of digestion and drain on the nervous system. To place such a patient in a tub bath is one of the most satisfactory measures in the realm of therapeutics.

Second, it saves an incalculable amount of labor. If such a patient be bedridden the application of lotions and salves and the changing of pads, gowns and bedding in the effort to keep the patient clean and make her comfortable requires the constant attention of a nurse.

Third, as I hope to show by the report of a few cases, it is a most valuable adjunct in the treatment of intractable cystitis with or without the formation of a fistula.

THE TECHNIC.

At first sight the execution of this treatment seems formidable, but in hospital practice it is very simple, and any home that is able to provide special treatment for such a patient will be found a suitable place for its installment. At the Johns Hopkins Hospital we use the same tub and chief accessories that are used in giving the typhoid baths.

As seen by Figure 1, the tub is of large size, measuring 6 feet 2 inches over all, 5 feet on the bottom, 21 inches wide and 20 inches high. It is made of heavy XXXX tin and has reinforced bands of the same material about the upper rim and about the mid-portion of the tub. The bottom rests on a one-inch board platform. On one end, as seen in the illustration, is a brass faucet with stopcock for emptying the tub. The tub is painted white inside and on the outside it is painted and grained. It may be stationary or mounted on trucks. Trucks made by the Fairbanks' Scale Company are suitable for this purpose. The tubs used at the Johns Hopkins Hospital are made by the National Enameling and Stamping Company, Baltimore, and are mounted on trucks if so ordered. The tub costs $16.00 and the trucks $7.00.

In the hospital work the tub is filled every morning to the desired depth with water at about 100 F. taken directly from the city supply pipes by means of a hose. To keep the temperature equable after the patient has been for some hours in the tub two or three pails of water are withdrawn from the spigot and the desired quantity of hot water is poured into the tub from above. During the usual day of eight hours in the tub this changing of water is necessary from one to three times according to the temperature of the room. If one were having a tub made especially for the continuous bath treatment it would be advisable to have built in the tub at one end a small recess under which could be placed a Bunsen gas burner or small oil lamp so adjusted as to keep the water at a constant temperature.

The patient sits or lies on strips of canvas which stretch across the tub and are held in position by brass clips as shown in the illustration. These canvas strips are about 22 inches wide and may be folded if narrower strips become desirable. The strip at the head of the tub on which rest the pillows is stretched as tightly as possible to form a back rest if the patient is sitting, and if she be reclining this strip is slackened. The strip at the foot may be separated a few inches from the middle strip on which the patient sits, in order that she may easily pass her feet between them to the floor of the tub and thus gain a rest by change of position. Light slats across the tub are covered by a blanket and mackintosh and these in turn by a white sheet or spread (Fig. 2). This covering serves to retain the heat, makes a "work table" for the patient, and presents a neat appearance.

If a continuous irrigation is desired a gallon bottle rigged with a siphon rod and rubber tubing and set on a box on a table near the tub will serve as the supply

tank. Or, as shown in Figure 2, a special earthenware jar and iron stand will be found more graceful and convenient for the constant use of a hospital. A large copper tank may be used if one wishes to avoid refilling during the day. This rests over a gas range or Bunsen burner, whose low flame insures an equable temperature for the irrigation.

If the patient is not excoriated about the genitalia, and particularly if she has little or no bladder pain, she does not require the sitz bath and the tub may be rigged as above described, except for the filling with water. The patient sits on the dry canvas strips, two of which are so separated under the buttocks as to allow the irrigation to run through to the bottom of the tub. In this manner a constant irrigation can be kept flowing with no other attention than that requisite for the supply bottle or tank.

The force of the stream entering the bladder is regulated by the height of the supply tank, and the patient can modify the stream at any time by changing the caliber of the supply tubing through the use of an artery clamp applied to the side of the tube. The inflow naturally has to be regulated according to the sensitiveness of the bladder, and to suit the freedom of the outflow, whether this be through a second tube in the urethra or through a suprapubic or vaginal fistula.

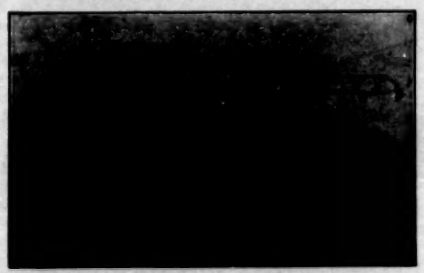

Fig. 1.—Showing tub and truck for moving it.

Fig. 2.—Showing patient in tub, with supply tank and constant irrigation tube leading to the retention catheter.

REPORTS OF CASES.

I propose in this paper to report only a few of the many cases treated by the aid of the tub. The first patient I placed in the tub remained there over two years. Her's was the most obstinate case treated, but, considering the conditions present and the final result, it has been one of the most satisfactory.

Case 1.—*History.*—Miss M. D., aged 38, admitted March 11, 1899. Universally ulcerated bladder. Irrigations twice daily for five weeks; no improvement. Calculus pyelonephrosis, drainage of left kidney. Bladder condition stationary. Making of vesicovaginal fistula and treatment for eight months on irrigations and local applications with some improvement. Tub-bath and continuous irrigations for over two years, great comfort to patient and gradual improvement of bladder condition. Closure of vesicovaginal fistula. Approximate cure.

The bladder, which at the time of making the artificial opening, was about the size of an English walnut, now holds 340 c.c. of urine, which causes a full feeling but no pain. The urine is neutral or slightly alkaline in reaction and contains many epithelial cells, many of them occurring in large clumps. Cystoscopy reveals only a slight red blush over the area which for two years showed persistent ulceration.

The patient weighed less than 90 pounds on admission to the hospital and now weighs 135 pounds.

Case 2.—*History.*—Miss I. H., aged 19, admitted Feb. 19, 1900. Severe exudative cystitis, calcareous-like deposits over the ulcers. (Fig. 3.) Alkaline urine, culture of bacillus proteus. Treatment for ten weeks by repeated curettage, acids by mouth and irrigations, with no improvement. Suprapubic drainage, tub-bath, continuous irrigation; disappearance of exudate in six weeks; closure of fistula after five months; cure.

I heard from this patient on May 1, 1902, when she was perfectly well, and I have since heard that she is married, has given birth to children, and has never had further bladder trouble.

Case 3.—*History.*—Mrs. M. P., aged 36, admitted May, 1901. Exudative and desquamative cystitis, postpuerperal, duration ten years. Local treatment eleven weeks with little or no improvement, vesicovaginal fistula, tub-bath treatment seven weeks, resulting in cessation of symptoms, rapid healing of bladder and request by patient to return home before complete disappearance of ulceration. Local treatments in out-patient clinic for several months; closure of fistula; cure.

At my request the patient returned recently for a cystoscopic examination. I found the urine normal and the ulcerated areas replaced by scar tissue.

Case 4.—*History.*—Mrs. J. W., aged 34, admitted May 16, 1901. Postoperative vesicovaginal fistula with retained infected sutures. Vaginitis and eczema of the pudendal regions and thighs. Tub-baths and irrigations for three weeks, removal of sutures, closure of vesicovaginal fistula, slight leakage, second closure successful. At the end of 34 days the bladder held 380 c.c. of urine and was free from inflammatory signs or symptoms.

Case 5.—*History.*—Mrs. B. S., aged 29, admitted to Church Home, Oct. 29, 1904. Instrumental delivery 18 days before admission; streptococcus infection, suppurative, exfoliative cystitis. Making of vesicovaginal fistula, delivery of entire vesical mucosa. (Fig. 4.) Tub-bath, continuous irrigation. Trigonum covered with epithelium in three weeks. In two months the bladder covered with epithelium except for a small area in the vertex. Closure of vesicovaginal fistula in ten weeks. Local applications to vertex of bladder. After leaving the hospital the patient made occasional visits to my office for a period of five or six months to have a silver nitrate application to the slowly healing area in the vertex of the bladder. She ceased her visits before complete disappearance of the read area, I was not greatly surprised when at my request she recently came for an examination and I found an inflamed area still persisting, together with frequency of urination. She rises to urinate from three to six times at night, and at times holds the urine two hours in the day time. I found the capacity limited to 120 c.c. because of pain. The condition is now rapidly improving under applications once a week of 10 per cent silver nitrate solution. I also contemplate increasing the capacity by the Young method of overdistension.

The following case is reported as being a representative of a very important group of cases. She is having the tub bath treatment at the present time and it is too early to report the results of treatment:

CASE 6.—*History.*—Mrs. E. B. A., aged 53. I first saw this patient at her home on June 30, 1906. She had been complaining since May, 1906, with severe pain in the bladder, gradually becoming worse. She had had days of comparative comfort, alternating with days and nights of most excruciating pain in the bladder, and frequency of urination. The pain, the loss of sleep, and the various drugs which had been administered with a free hand by the family had left the patient in a deplorable mental condition. She was sent to the hospital and careful cystoscopy showed a considerable portion of the bladder to be ulcerated. The left half of the bladder was distinctly worse than the right and about the left ureteral orifice were several polypus-like projections. The ulcerated areas had a tendency to a linear or serpiginous arrangement. On palpation the left ureter was distinctly thickened. The picture was very suggestive of tuberculosis, but several examinations of the urine for tubercle bacilli were negative.

The patient was first treated for several weeks by instillations of protargol. This seemed to give practically no relief either in signs or symptoms. After five weeks at the hospital she had improved in general health and was allowed to go home. For the next two months a visiting nurse gave instillations twice a week of a 1/10000 bichlorid of mercury solution. At times the urine was approximately normal and at other times it contained pus and blood. Finally, on Jan. 20, 1907, I was able to find several groups of tubercle bacilli in the urine, thus confirming a suspicion that I had entertained from the first.

The patient again entered the hospital and on February 26 I examined her under ether, intending, if the right kidney seemed normal, to remove the left. The patient had been extremely nervous and I had never attempted to catheterize either ureter. Under anesthesia palpation revealed thickening of both ureters, the left side being much thicker than the right. An attempt to catheterize the right ureter was a failure, the catheter stopping after entering the ureter about 5 cm. The left ureter was easily catheterized, the patient was turned to the dorsal position, and after thoroughly washing the bladder the urine from the right side was allowed to collect in the bladder, while that from the left was taken by catheter. In a half hour about 10 c.c. was collected from either side. That collected through the bladder contained considerable blood and albumin, probably entirely due to the trauma of the previous manipulations. This urine was acid and contained 0.7 grams of urea to the c.c. There was very little sediment except the red blood corpuscles. The urine collected from the left side through the catheter was pale, colorless, neutral in reaction; it contained no albumin and less than 0.1 gram of urea. There was a large sediment of heavy white material which microscopically showed pus cells and myriads of tubercle bacilli. No tubercle bacilli were found in the specimen collected from the right side.

In view of the extension of the ulceration across the base of the bladder and because of the thickened right ureter, and uncertainty as to the exact condition of the right kidney, I considered it unsafe to remove the left kidney at that operation. I therefore made a vesicovaginal fistula, with the idea of placing the patient in a tub bath and waiting for the bladder and the right ureter to recover a more nearly normal condition.

Past experience with similar cases has demonstrated the fact that the second ureter may be thickened because of absorption from the bladder when there is no tuberculosis in that ureter or kidney. Drainage of the bladder with the constant irrigation results in a clearing up of this secondary thickening and leaves the ureter in a condition to be easily catheterized.

While my work is entirely confined to women there is no reason why this method should not be used for men. Bladder drainage in cases of long standing prostatic retention often results in an entire ward being rendered almost uninhabitable because of the stench. Placing one of these patients in the tub would effectually do away with most of the odor, and the constant irrigation through a suprapubic or perineal wound would hasten the healing.

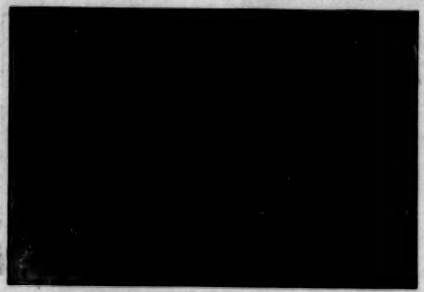

Fig. 3.—Showing condition of bladder in Case 2. Severe exudative cystitis with areas of thick calcareous deposits.

Fig. 4.—Showing the entire bladder mucosa in suppurative exfoliative cystitis (Case 5).

In reviewing the above cases we find the use of some methods of treatment which I do not recommend after further experience in bladder work. Curettage of an ulcer situated on the trigonum or near the ureteral orifice has in two cases, not in this list, been followed by ascending infection. The making of a vesicovaginal fistula causes trauma and swelling about the ureteral orifice, and while I leave gauze in the freshly made opening to prevent its immediate closure, I am careful that there is no pressure to help close the ureteral orifice.

The baneful influence of the retention catheter in causing pressure ulcers and infection can not be too strongly emphasized. The pressure ulcers caused by a retention catheter can be studied by the use of the cystoscope and on postmortem specimens. I therefore never leave a mushroom or bat-wing catheter in the bladder except while the constant irrigation is flowing. If the conditions require the leaving of a retention catheter in preference to repeated catheterization I leave an ordinary smooth rubber catheter of small caliber and attach it on the outside either by suture or by the use of adhesive strips in a manner to prevent its coming out.

This report represents only a few of the many cases treated by this method in the past seven years. I have hoped to strengthen the argument for the utility of this method by selecting a few of the worst cases, most of them having obstinately refused to heal under the usual methods of treatment.

SUMMARY OF CASES.

Case 1 represents a universally ulcerated and constricted bladder which almost certainly had deep extension of the inflammatory process in most of its muscular wall. Cases 2 and 3 were marked examples of exudative cystitis in which the local areas of deep ulceration and their calcareous deposits persisted in spite of repeated curettage and local applications of strong caustics.

Case 4 illustrates the value of the tub-bath treatment in curing an eczema and vaginitis due to a vesicovaginal fistula. The treatment was also largely effective in clearing up the infection and deposits about the silk sutures left at the former operation. Case 5 demonstrates the utility of the tub bath in acute infectious conditions. In addition to the complete exfoliation of the bladder mucosa leaving a denuded and inflamed muscle surface, the patient has a complete laceration of the left levator ani muscle, exposing the obturator and extravesical regions in the pelvis. She expressed gratitude at the comfort and relief afforded by the warm tub bath. I know of no other means whereby the bladder could be kept so clean, thus offering a good field for the rapid covering by new epithelium. Case 6 represents a large class (the tuberculous cases), for the treatment of which the tub becomes an occasional aid.

It will be seen from the above reports that I consider the tub and the continuous irrigation as accessories in the treatment of cystitis; and their use, while comparatively simple, is unnecessary in the majority of cases. Those familiar with bladder work recognize the value of placing the bladder at rest by making a vesicovaginal fistula and using no other treatment. Fortunately, even this is unnecessary in most cases of cystitis. The tub bath and the continuous irrigation are reserved for the more intractable cases.

PHYSIOLOGIC AND CLINICAL OBSERVATIONS ON THE ALIMENTARY CANAL BY MEANS OF THE ROENTGEN RAYS.*

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The superiority of this method of examination over others is recognized, I think, by all who have investigated it sufficiently. To date, there have been about 55 contributions on the subject, and the method has reached a stage of development, when no case involving a chronic ailment of the alimentary canal is completely investigated until there has been a Roentgenologic examination by a competent man.

Cannon[1] by this method has added to our knowledge of the physiology of the gastrointestinal tract. Rieder[2] of Munich, however, was the first to place the clinical study on a firm footing. After the administration of large quantities of bismuth food he was enabled to obtain beautiful negatives showing the size, position and form of the stomach, and to a certain extent the rate at which the stomach would empty itself.

Holzknecht[3] advanced particularly the Roentgenoscopic method, and by means of the fluorescent screen he was enabled to study not only the points determined by Rieder, but also to recognize the peristaltic movements of the stomach walls, the effect of the respiration and the effect of massage on the contents of the stomach.

In America, the Roentgen method of examination of the gastrointestinal tract has been especially employed in the study of gastroenteroptosis by Hulst[4] and Pancoast.[5]

My studies began in March, 1905, after reading the excellent paper by Rieder. To date they include a study of 80 subjects. Thirty-one of these were healthy persons. The others include a variety of pathologic conditions, and were obtained in part from private practice, but in great part from the wards of the Medico-Chirurgical Hospital under the care of Profs. J. M. Anders, Judson Daland and W. Easterly Ashton, to whom I am especially indebted for the use of this material and for their kind interest in my work.

THE NORMAL STOMACH.

There has been much discussion as to the form and position of the normal stomach. Time and space will not permit of a review of the various types and the arguments in favor of them which have been described. The general idea of the form and the position of the normal stomach, as well as the text-book illustrations, has been obtained from a study of the stomach of the cadaver, the patient on the operating table, or clinically by means of percussion.

Practically all of these studies have been made with the body in the dorsal recumbent posture. The position of the stomach in the dorsal recumbent posture bears very little relation to its position in the standing posture. Percussion in the standing posture, I believe, is entirely unreliable, because in the standing posture there is present only a small collection of gas in the fundus of the stomach, and from this amount of gas it is impossible to judge of the size or position of the remainder of the stomach. If distended with food, its percussion note will be interfered with by the colon.

Therefore, since we spend most of our active life in the standing posture, and especially during the hours of digestion, it is most important that we determine the form and the position of the stomach in this posture. I believe that the Roentgen method is the only accurate means of getting this information.

From the records in literature, it seems that most of the study has been on the sick, and therefore only very rarely is a normal stomach found. Holzknecht says he has rarely seen a normal stomach. For my own satisfaction, and to help solve this problem, I undertook a study of a series of healthy subjects. Most of them were physicians or medical students, together with a few healthy children. Most of the men were athletes and in the best of health. All were without symptoms at the time of examination.

I have examined in all thirty-one healthy persons. In

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907. For lack of space that part of Dr. Pfahler's paper which deals with the technic of the work here described is omitted from THE JOURNAL, but will be published in full in the Transactions of the Section and in the author's reprints.

1. THE JOURNAL A. M. A., March 21, 1903; Ann. Surg., April, 1906; Am. Jour. of Physiol., vi, 133-146.
2. Munch. med. Wochschr., Aug. 30, 1904.
3. Berlin. klin. Wochschr., Jan. 29, 1906; Mittheilungen aus dem. Lab. f. radiol. Diagnost. u. Therap., Vienna.
4. Phys. and Surg., September, 1906; Arch. Phys. Therap., January, 1906.
5. Univ. of Penn. Med. Bull., August, 1906.

this number I have found what I believe to be normal stomachs in fourteen. All the other stomachs presented the characteristics of gastrectasis and gastroptosis to a greater or less extent.

The normal stomach, I believe, when empty or when moderately filled, occupies the left side of the abdomen, and extends from the inner two-thirds of the left dome of the diaphragm to the median line, usually about an inch above the umbilicus. The upper two-thirds is almost vertical, and the lower third is nearly horisontal, making the general direction of the stomach slightly oblique. The essential point of the normal stomach is that the pylorus be on a level with the lower pole. This corresponds practically to the normal stomach described by Holzknecht and Leven and Barret. Leven and Barret[6] find the stomach of the suckling horizontal when the patient is in the vertical posture.

The ages of these healthy patients varied from 7 months to 38 years. Each person who had a normal stomach also had a normal body in every respect. I could recognize no difference between the normal type in children and that in adults, and I believe there is no difference in general between the normal stomach of the child and that of the adult.

The stomach of the average individual in the standing posture extends to or below the umbilicus. It is vertical for more than its upper two-thirds, and the lower pole is distinctly lower than the pylorus. It also occupies the left side of the abdomen, except when distended; the pyloric portion extends from one to two inches beyond the median line to the right.

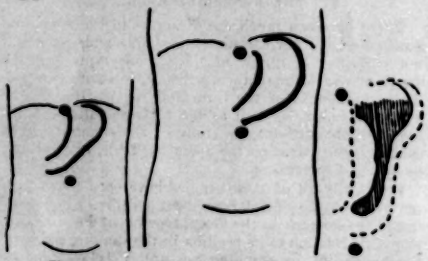

Figure 1. Figure 2. Figure 3.

Fig. 1.—A nursing infant, 7 months of age, after it has satisfied itself and after taking about twenty grains of bismuth in a little water. Shows no particular difference from the normal adult stomach.

(Figures 1 to 9 represent Roentgenoscopic tracings which were reduced to lantern slides and then retraced, so that they show the actual form and proportions in each instance. The upper circular mark represents a cent placed on the ensiform cartilage and the lower circle represents a mark placed on the umbilicus. The first two figures show a lower curve representing the pubes. The curves in the upper portion of the figures represent the curves of the diaphragm. All of these figures represent the stomach in the upright position.)

Fig. 2.—A healthy female child of 3 years, showing the position of the stomach after taking six ounces of bismuth-bolr.

Fig. 3.—A healthy child of 10 years. The heavy central shadow shows the manner in which the normal stomach begins to fill. The clear upper space represents gas in the fundus, which increases as the food is swallowed. Gradually the stomach assumes the form represented by the broken lines.

Two questions at once arise: 1. Why not consider the average stomach of healthy people normal? 2. Why does this second type not produce symptoms if it is not normal?

The answers are that the second type has all of the essential characteristics of gastroptosis and gastrectasis. If this type is to be considered normal, then no line can be drawn between the normal and the gastroptosis and gastrectasis. Further, when these persons who show a slight gastroptosis and gastrectasis are closely studied they are found to have a tendency toward the narrow or flat chest in its lower portion. In other words, they are not perfectly proportioned.

The second question as to why no symptoms are produced can also be answered. In the persons I studied, when closely questioned, it was found that occasionally they suffered from indigestion, eructation of gas, with nausea, and some of them had even noticed dragging sensations at times or an uncomfortable sensation. These you see are simply the mild form of the graver symptoms associated with the severe grade of gastroptosis.

Figure 4. Figure 5. Figure 6.

Fig. 4.—A healthy man of 25 years, an athlete. The solid lines show the position of the normal stomach. The broken lines show the position of the stomach when the abdominal muscles were contracted, a rise of approximately three inches.

Fig. 5.—Shows a normal stomach in a man of 32 years, with the fundus widely distended with gas, which he swallowed.

Fig. 6.—Shows a mild gastroptosis in a healthy man of 30 years of age. The solid lines indicate the position of the stomach in his ordinary posture, while the broken lines show the stomach raised approximately to the normal position by contraction of the abdominal muscle and an erect posture.

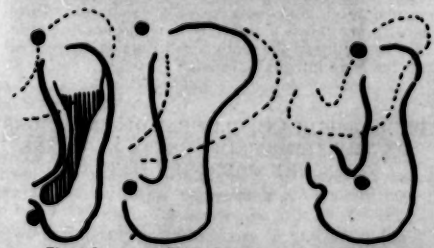

Figure 7. Figure 8. Figure 9.

Fig. 7.—Shows a mild gastroptosis in a healthy man of 32 years. It shows that the manner of filling of the stomach, in which the muscular tone is good, does not differ from the normal. This figure shows the remarkable rise of the stomach to the extent of approximately six inches due to the contracting of the abdominal muscles.

Fig. 8.—Shows a more marked grade of gastroptosis in a healthy man of 24 years, and the marked increase in the width of the fundus as well as the rise of the lower pole on contraction of the abdominal muscles.

Fig. 9.—A thin healthy man of 34 years, with a phthisical chest, showing a well-marked grade of gastroptosis, and gastrectasis, and the remarkable rise of the lower pole to the extent of six inches due to contraction of the lower abdominal muscles.

Further, these people were usually not as well nourished as the others. Therefore, I believe as long as the motility of the stomach is good no symptoms will be produced, but when this motility is impaired from any intercurrent cause symptoms will follow.

6. Presse Méd., August, 1906.

The arguments in favor of the normal type as recognized by both Holzknecht and myself are, first: It is the shape and position in which an engineer would build an organ to perform the functions of the stomach, these functions being to serve as a reservoir and partially to digest the food. Nature has placed the secreting glands in the pyloric portion, and has also placed the strongest muscles in this portion, as is shown by the strongest contractions in this part. Therefore, the body of the stomach must serve as reservoir, and a reservoir is always placed higher than its outlet, and for this reason I believe the pylorus should be on a level with the lower pole, as is found in the Roentgenographs of the normal stomachs and in the Roentgenoscopic tracings. Second, it is the type found in healthy children and in adults who have normally formed chests, strong abdominal muscles and who stand erect. Third, it is the position which the stomach assumes when the abdominal wall is contracted even in cases of gastroptosis.

The fact that the majority of people have gastroptosis is not new. In the discussion on enteroptosis in Berlin in 1890, Virchow[7] stated that in the majority of adults there is a certain amount of dislocation of the viscera, and especially of the bowel, so that more persons are affected with this dislocation than have the organs in normal position.

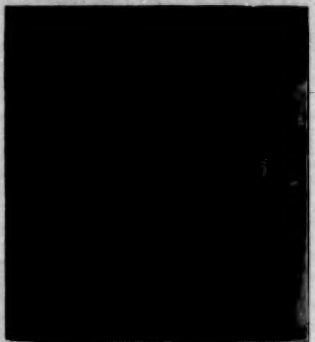

Fig. 10.—A Roentgenograph of a physician, 50 years of age, who in childhood had a phthisical chest, and by exercise and correction of posture developed a normal chest. Shows a normal position of the stomach and bowels. Dr. Daland's patient.

Fig. 11.—A Roentgenograph of a case of gastroptosis, taken with the patient lying with the abdomen on the plate, which accounts for the stomach showing approximately a normal position. Shows the collection of food between the kink in the duodenum and the pylorus, and separated from the food in the stomach by a sharp and regular line. A case of Dr. Daland's.

THE SUPPORT OF THE VISCERA.

The study of the healthy subjects, as well as the cases of gastroenteroptosis, show that the abdominal wall is the chief support of the abdominal viscera, and when this becomes weakened from whatever cause, such as relaxation after pregnancy, the removal of an abdominal tumor or cyst, ascites, rapid emaciation following obesity, or from general muscular weakness or faulty position, then gastroenteroptosis will develop.

In the 80 cases studied it was found that on contraction of the abdominal muscles the lower pole would rise from one to five or six inches; the degree of movement depending mostly on the degree of strength of the abdominal muscles and the degree of gastroptosis. As an example, the greatest movement occurred in a physician who was, generally speaking, healthy, but who had a well-marked gastroptosis, and yet in whom the abdominal muscles were still strong. In this man the stomach moved upward about six inches. In any healthy person if the abdominal muscles are willfully relaxed the viscera move downward, and when the normal tone is again obtained the stomach assumes a normal position.

Sailer[8] believes that in the majority of instances splanchnoptosis is a congenital condition. I do not know on what that conclusion is based. I believe, however, that in all instances it is due to a weakness of abdominal muscles, or abdominal wall. No matter how early this condition is recognised, we need not assume that it is congenital, for sufficient cause for overdistension of the abdominal wall and therefore weakness can be found. All have recognised the tremendous distension of the abdomen of very young infants by gas. Why will not this overdistension produce the same weakness of the abdominal muscles that is produced by overdistension in adult life?

GASTROENTEROPTOSIS A CAUSE OF PHTHISICAL CHEST.

It has long been recognized that the phthisical chest and splanchnoptosis are associated. Just as all the abdominal viscera share in the descent, so the thorax shares in the effect. Why should it not? A body can not occupy two places at the same time. If the contents of the abdomen fall, therefore, something must take their place in the upper portion of the abdomen, or there will be a vacuum produced. Since Nature abhors a vacuum, an effort is at once made to replace the viscera, and as the result the diaphragm moves downward and the lower portion of the thoracic wall moves inward.

This is no idle theory, for it can be demonstrated in more than one way. If the stomach or bowels are rendered opaque, even in a healthy subject, and the abdominal wall relaxed, the stomach and bowel can be seen to move downward, and at the same time there is, to a lesser extent, a downward movement of the liver, spleen and diaphragm, while the thoracic walls clearly move inward. If, on the other hand, the abdominal wall is contracted, all of the viscera move upward and the chest expands. We need not depend, however, on Roentgenoscopy for this demonstration, for if the hands

7. Quoted by Holzknecht from Wiener med. Wochschr., 1890, 27, 28.

are placed on the thorax and the abdominal wall relaxed, the walls can be felt to move inward, and vice versa.

TREATMENT OF GASTROPTOSIS.

If the splanchnoptosis, therefore, is a cause of the phthisical chest, and since the weakness of the abdominal wall is an important cause of the splanchnoptosis, the rational treatment of these conditions will be the strengthening of the abdominal wall, if possible, by means of carefully regulated exercises, constant effort to stand erect, and the use of massage and electricity. I believe that many of the cases of gastroptosis of the milder type can be entirely relieved by this form of treatment. More than this, I believe that great assistance can be given, if given early, in transforming a phthisical chest into one of normal type, by strengthening the abdominal muscles.

An example of this came to my attention recently in a physician referred to me by Dr. Judson Daland. The examination was made because of an obstinate constipation, which was found by Dr. Daland to be due to hemorrhoidal obstruction in the rectum. This physician states that when a boy he had a phthisical chest, was therefore sent to the West to work on a ranch, and later

Fig. 12.—A Roentgenograph of a marked case of gastroptosis, and the retention of half of the food given six hours previously, showing not only no assistance from an improperly applied support, but probable actual interference with the motility of the stomach. Dr. Ashton's case.

joined the National Guard of Pennsylvania. The commanding officer constantly ordered him to contract his abdomen and to stand erect. To-day his chest is of normal type, and his stomach and bowels are in normal position, as the Roentgenograph demonstrates.

Many cases of gastroptosis, of course, can not be successfully treated in this way, because the abdominal muscles can not be sufficiently developed, and because there is present a marked gastrectasia. These must be helped by means of abdominal supports or operation.

In certain of the cases, in which the abdominal walls can be developed, it is rational to apply a bandage early in the treatment on the same principle, as stated by Dr. Daland in his lectures, that a splint is applied to a broken limb simply to support it until Nature can build its own support. The bandage will allow the patient to receive better nourishment, will relieve most symptoms, and by increasing the general strength, will enable the abdominal muscles to gain their strength sooner.

THE PROPER APPLICATION OF A BANDAGE.

A bandage improperly applied will do more harm than good, as is shown by some of my illustrations. It is observed from the illustrations shown that even in marked cases of gastroptosis the stomach moves nearly into its normal position when the patient is in the supine position.

Therefore, a bandage applied to give support to the stomach should always be applied in the supine position, as was demonstrated by Dr. W. Easterly Ashton's patient. I believe the only absolute method of determining whether the bandage is doing its work properly is by means of the Roentgen examination. Therefore, the rays should be used first to determine the extent of gastroptosis, and the degree of motility, and finally to determine whether the treatment is accomplishing results.

RETENTION AND OBSTRUCTION IN GASTROPTOSIS.

The retention of food is, I believe, due in greatest part to the sac formed by the pendant portion of the stomach which sags below the pyloric orifice, but as long as the motility remains good the food is lifted out of this sac by means of the peristaltic contractions. I have never observed distinct gastric obstruction within

Fig. 13.—Showing a support properly applied and the stomach in nearly a normal position in the above case.

the stomach, even in those cases which Pancoast classes as the kinking stomach, due to its extreme ptosis, because I believe in these cases the stomach is widely dilated and I have always found the food to pass easily from one portion to the other, when influenced by massage or muscular contraction. If this kink actually caused obstruction, the second portion would be found empty. In my experience they have been equally filled, and finally the food rests simply on the lower curvature at the lower pole, as some of the illustrations show.

There is a point of distinct obstruction, however, but it is in the duodenum. It occurs about an inch from the pylorus, and in a number of the illustrations may be seen small portions of food resting between the pylorus and a point an inch away. This obstruction I believe to be due to a kink in the duodenum at this point. G. G. Davis,[8] in discussing the anatomic relations of the stomach, says:

> The pylorus is almost entirely surrounded by peritoneum, as is also the duodenum, for its first inch. Thus we see that the pylorus is extremely movable within a short radius. The

next eight or nine inches of the duodenum are, however, firmly fastened to the spine and the structure lying on it being covered by the peritoneum only in front.

Therefore, it is seen that the kink which I describe and which is illustrated by the Roentgenographs corresponds exactly to the point of firm attachment of the duodenum to the spinal column, which begins one inch from the pylorus.

The recognition of this obstruction will serve at least in some cases to differentiate retention of food due to simple gastroptosis and that due to a neoplasm. The failure to recognize this point led me to err in a diagnosis recently. A patient of Dr. J. M. Anders, aged 48, had a series of chronic gastric symptoms, he had lost some weight, the HCl was practically absent, and at times when I moved my hand upward I thought I could feel it glide over a small mass in the region of the umbilicus. This mass was evidently gas crowded upward into this kink, for I could never feel it when I moved my hand downward. By Roentgen examination I found food retention of at least eleven hours. There was present constantly, food outside of the pylorus, as shown in the Roentgenograph, but I misinterpreted it, believing there was a carcinoma of the pylorus causing this obstruction, with which diagnosis Dr. Anders did not concur. I recommended an operation, which was performed by Dr. Ernest Laplace. He found no new growth, but found a marked gastroptosis which I had, of course, recognized, and which is plainly shown in the Roentgenograph, the lower pole resting in the pelvis. A gastroenterostomy was done and the patient is doing well.

We can have a gastroptosis, together with malignant obstruction, as I have demonstrated, but when the obstruction is due to carcinoma of the stomach it is likely to occur to the left of the pylorus and not beyond it. At least, the obstruction will not present the typical appearance shown in the cases of simple gastroptosis. A sharp line of separation can often be seen between the food in the stomach and that lying outside. The sharpness of this line helped to eliminate carcinoma of the pylorus in a case of Dr. Daland.

I have studied cases of advanced carcinoma at the pylorus, but the length of this paper will not permit a review of them. Carcinomas that were not palpable have been recognized by Holzknecht, Grunmach and Steyrer.

HOUR-GLASS CONTRACTION DUE TO CARCINOMA.

History—The patient, a white man, aged 36, a musician, was referred to Dr. Warren C. Batroff. He was well until a year ago, when he consulted his physician on account of pain in the stomach immediately after meals. Dr. Batroff found a hyperchlorhydria and made a diagnosis of gastric ulcer. More recently he had felt a gnawing sensation, had lost his appetite and his strength, and had vomited blood. He could eat only small quantities of food at a time, which led Dr. Batroff to suspect an "hour-glass contraction."

Examination.—With the stomach empty, Roentgenoscopic examination showed a small quantity of gas in the fundus. When the bismuth capsule was given, it was found to lodge about two and one-half inches from the upper pole, and at the bottom of the collection of gas. (This much may at times be observed in healthy stomachs.) When the bismuth-kefir mixture was given it was found to lodge at this point for about a half hour, gradually trickling through. As the quantity was increased, in both the upper and the lower segments, it assumed a typical hour-glass appearance and the constricted portion did not dilate even when distended to the limit of endurance of the patient. A Roentgenograph made an hour after the food had been given permitted one to recognize not only the hour-glass contraction, but at the point of stricture the walls of the stomach were seen to be very irregular, and something could be seen separating the wall of the stomach from the bowel, which had been rendered opaque by his previous treatment with bismuth subnitrate. Therefore I concluded that the hour-glass contraction was due to carcinoma.

The diagnosis of hour-glass stomach must not be hastily made, and never until the stomach has been distended to the limit.

THE INTESTINES.

The study of the passage of the food through the intestines is of importance. To study the small bowel the food must be introduced by mouth. To study the colon an enema containing bismuth may be given just preceding the stomach examination, or food may be given by mouth the preceding day, or two days may be utilized in the examination. This latter method is probably the best, because it gives rise to fewer complications and difficulties. Finally the bowel may be distended with gas. A single case will illustrate the value of following the food through the intestines.

History.—The patient, a boy, aged 18, was referred by Dr. J. M. Anders. His symptom was obstinate constipation. He had distinct gastroenteroptosis, but the most interesting fact observed was that, at the end of six hours after taking the bismuth-kefir food, it was all found lodged opposite the ileocecal valve, and gradually crowding its way through a very small orifice. In no other case had I recognized any such obstruction. Twelve hours later this portion was entirely empty, and the food could be observed evenly distributed through the colon even to the rectum. There was no delay due to decrease in the peristaltic movements of the large bowel. It lodged in the rectum, however, for another twelve hours. Therefore we concluded that his constipation was probably due to a spasmodic condition of the ileocecal valve and of the sphincter ani.

CONCLUSIONS.

1. The Roentgen examination will demonstrate obstructive disease anywhere along the alimentary canal, and much information as to the character of this obstruction can be obtained.

2. The Roentgen method of examination is probably most useful in the study of the stomach. By this means size, form, position, motility and mobility and the effects of massage, respiration, abdominal contractions, peristaltic action and food can be studied.

3. The normal stomach is slightly oblique in the standing posture. Approximately, its upper two-thirds is vertical, and the lower third is nearly horizontal. Essentially, the pylorus must be on a level with the lower pole. Its lower pole is usually an inch above the umbilicus, but moves downward when fully distended. The stomach is normally a very movable organ, as is shown by the fact that about two-thirds of it crosses the median line when the patient lies on the right side. When distended with food the pylorus is carried downward and to the right. I believe there is no difference between the normal stomach of children and the normal stomach of adults in the standing or upright posture.

4. The respiratory movements cause the upper pole to move to the extent of the movements of the diaphragm. The lower pole moves from one-half to one inch, between forced inspiration and forced expiration. With deep inspiration, the fundus is increased in diameter and the pylorus moves to the right.

5. The contraction of the abdominal muscles will cause the stomach to rise from one to five or six inches, depending on their strength and the degree of ptosis. However, in extreme gastroptosis the stomach may lie below the elevating force of the contractions.

6. These abdominal contractions may be used to mix

the food in the stomach. If a person eats an ordinary meal and then takes an ounce of bismuth it can be thoroughly mixed with the food in a minute or two, and then studied with the rays.

7. These abdominal contractions seem to stimulate the peristaltic movements. Therefore, they assist in emptying the stomach by raising it so that it serves as a reservoir, by removing the obstruction which is caused by the kink in the duodenum, and by stimulating the peristaltic movements.

8. These contractions cause not only the stomach to rise, but the entire abdominal viscera. The lower portion of the chest expands and the diaphragm rises.

9. The reverse conditions develop when the abdominal wall is relaxed. In other words, the tendency in a normal person to splanchnoptosis may be seen when these walls are relaxed.

10. I believe, therefore, first, that the abdominal wall is the main support of the abdominal viscera; second, that the phthisical chest may be secondary to the descent of the viscera; and third, that the most important element in the treatment of the gastroptosis and the phthisical chest is the strengthening and toning of the abdominal walls and the correction of posture.

11. In severe grades of gastroptosis, the portion of the stomach that rests below the level of the pylorus serves as a retention sac, but the point of actual obstruction to the passage of food is a kink formed in the duodenum about one inch from the pylorus, where it is firmly attached to the spinal column. The food lying between this kink and the pylorus is usually separated from the food in the stomach by a sharp and regular line. This will serve as a differential point between this form of obstruction and that caused by carcinoma of the pylorus.

12. The Roentgen rays are of value in collecting additional information in the diagnosis of carcinoma of the stomach, but must not be depended on to make an absolute diagnosis.

13. When a supporting bandage is applied in the treatment of gastroptosis, there should, if possible, be a Roentgenologic examination to determine whether it is properly applied and whether it is serving its purpose.

14. A moderate gastroptosis may be present and not produce symptoms, as long as the motility of the stomach is good. If, however, the motility of the stomach be disturbed by some intercurrent cause, then symptoms will be produced.

15. The Roentgenoscopic and the Roentgenographic method of examination each has its advantage. Roentgenoscopically, we study the motion of the viscera, while Roentgenographically, we make accurate records and often obtain finer detail.

16. The Roentgenoscopic method is a dangerous procedure to the operator, unless he is properly protected, and even then the amount of exposure should be reduced to the minimum.

17. The bismuth-kefir mixture (bismuth subnitrate 1 ounce, and kefir 1 pint or more) is the best medium to render the alimentary canal opaque, because it is easily digested, holds the bismuth in suspension almost perfectly, and because it tends to counterbalance the constipating effect of the bismuth.

18. The esophagus can best be studied by oblique illumination. Peristaltic movement can be seen carrying the food downward. Solids are likely to lodge for a short time at the level of the arch of the aorta, but pass quickly through the cardiac orifice. A swallow of liquid, on the other hand, lodges in the lower third of the esophagus for a period of about seven seconds before all of it passes into the stomach. It is probably detained at this point by the sphincteric action of the cardiac orifice, which only allows the liquid to pass in slowly. The capsule drops through, probably before the sphincter has had a chance to act.

DISCUSSION.

DR. J. DUTTON STEELE, Philadelphia, said that most of the *x*-ray photography in gastric and intestinal disease has considered only the topography of the various organs and the change that takes place in their position and size. This paper enters the much more important field of morbid physiology and attempts to determine not only the anatomic changes in disease, but disturbances of motility as well. He stated his belief that the study of the gastrointestinal tract by means of the *x*-rays will develop along these lines and will aid in solving many obscure problems. It has become the fashion, he said, to ascribe many gastric symptoms to disturbances in gastric motility, and especially is this so of various indefinite sensory disturbances which were formerly ascribed to changes in gastric secretion. After it was found that the effects on the stomach of alterations in the gastric acidity had been greatly overestimated, physicians were liable to explain such changes in sensation by assuming that they are caused by atony and gastric motor insufficiency of minor grades. Particularly is this so in gastroptosis. All recognize that downward displacement of the stomach does not in itself cause symptoms, and that some important factor besides ptosis must be present before there is marked disturbance of the function of the stomach. Dr. Steele thinks that most observers believe that this factor which determines the presence of symptoms in cases of gastroptosis is gastric motor insufficiency of more or less minor grade. This idea is a very natural one for several reasons:

1. The pyloric end of the stomach is the part that sinks and the cardiac end remains against the diaphragm. In many cases this causes an apparent kink in the pyloric end of the stomach and appears to cause a similar kink in the duodenum. This has been shown by *x*-ray pictures. Whether this kink is enough to cause serious obstruction, he believes, is open to doubt, but at all events it is the most striking thing one sees in *x*-ray pictures of enteroptosis, and it is natural that considerable emphasis should be laid on it by observers seeking an explanation for the causation of symptoms in gastroptosis. That there is the disturbance of gastric motility in many cases of gastroptosis Dr. Steele did not deny, but that gastric motor insufficiency and retention can be assumed as present in every case of gastroptosis with symptoms is, he thinks, very doubtful. 2. It is undoubtedly true that in many cases of gastroptosis the stomach empties itself in a shorter time than usual. This has been observed by many writers. 3. The movements of the stomach are very complex as shown by the work of Cannon and others. Physicians speak of the organ when discussing gastric atony as if its only function were to hold the food until sufficiently digested and then to empty it into the duodenum. But when it is considered how the food is mixed and churned in one portion while it lies without movement in the cardiac end, and how intricate and selective is the mechanism of the opening of the pylorus, it is seen that the mechanism is very much more complicated than the earlier and simpler conceptions of gastric physiology have led us to believe. 4. There is no reliable method of determining changes in gastric motility, particularly those of minor grades. Decided retention of food can be demonstrated by washing out the stomach four or five hours after a test meal, but none of the methods of determining motor disturbances of lesser degree as those suggested by Sahli, Elsner, Mathieu and Raymond have stood the test of experience and time.

When all these points are considered, it seems to Dr. Steele that physicians must acknowledge that they do not know enough of the motor mechanism of the stomach and its variations in disease to assume that the symptoms of disturbance of gastric function in cases of gastroptosis are due to gastric

atony alone, especially as in some cases there is hypermotility instead of motor insufficiency. It is in the solution of these obscure problems that *x*-ray photography can aid in determining in the human subject what Cannon has done to some extent in animals, namely: 1. To determine the normal function of the stomach. 2. To determine the morbid physiology of gastric motility and its clinical significance. In conclusion Dr. Steele said that in his opinion the solution of the vexed problem, Why symptoms are present in some cases with gastroptosis and are not in others, is this: Ptosis of the stomach makes it, for some reason, a point of lesser resistance and when there is a general lowering of nervous strength in the individual, the stomach is the place where the general loss of nerve power first manifests itself. As a consequence, there are various forms of gastric neurosis, motor, sensory, or secretory. When by treatment directed to raising the nervous energy of the individual as a whole, this gastric neurosis is relieved, the stomach symptoms cease, although examinations will show that there has been no change in the position of the stomach as a result of treatment.

Dr. L. C. Ghosh, Toledo, Ohio, said that gastroptosis frequently occurs in the symptom complex called neurasthenia. In this condition the dilatation can be looked on as a sign of depression of the function of tonicity of the musculature of the stomach wall. It is frequently associated with dilatation of the heart due to the depression of this function. Dr. J. Mackenzie, England, called his attention to a number of cases of gastroptosis recurring during the cold months of the year, these were associated with undue coldness of the hands and feet, cardiac dilatation and inspiratory increase of the amplitude of the jugular pulse.

Dr. James M. Anders, Philadelphia, regarded the paper of Dr. Pfahler as being not only interesting but very valuable for diagnostic and therapeutic reasons. He confirmed what was said in reference to the size and position of the normal stomach, thanks to the courtesy and privilege given him to see these cases during the examination. All physicians know that in a number of instances of gastroptosis there are no symptoms; but up to the time Dr. Pfahler made his demonstrations and explanations, the subject was not so clear. Dr. Pfahler has shown that the process can be watched carefully during an *x*-ray examination and that there may be a gastroptosis and yet good stomach motility. So long as the stomach has this motility, just so long will there be an absence of symptoms; this ocular demonstration is of more value and gives better satisfaction than any attempted explanation for it. Dr. Anders is sure that this method will substitute the old ones of investigation into and study of the motility of the stomach; not only this, but the time required for the passage of the food through the intestines, and each physiologic section thereof can be accurately determined by this method. In one of the cases studied by Dr. Pfahler, points of obstruction were found at two different places. The *x*-rays also throw light on the nature of the obstruction in some cases at least. This was true of the case referred to above, in which the impediment was of a transient or spasmodic character. Dr. Anders said that he had had the privilege of observing every advance made by Dr. Pfahler for the cure of gastroptosis, and he is sure that by strengthening the abdominal walls, or the abdominal muscles, through special physical exercises and other agencies, the condition can be overcome successfully. He referred to a case, in a young lad, who came to him with a gastroptosis of moderate degree; there was also a descent of other viscera. After studying the case with Dr. Pfahler his diagnosis was confirmed. There was a history of constipation almost from birth, for which every method of treatment had been tried. As the result of two months treatment, when the lad was re-examined by the *x*-ray, it was found that the stomach had moved upward a distance of at least two inches as compared with its position at the first examination. In that case, the most remarkable thing was the result of rearranging the diet; this in connection with the physical exercises that were instituted, and the outdoor life, resulted in regular bowel movements without the use of laxatives. The theory advanced by Dr. Pfahler to explain the phthisical thorax needs further confirmation. Doubtless Dr. Pfahler has cured some patients by elevating the stomach by strengthening the abdominal muscles, which re-expands the chest and overcomes the phthisical thorax, but recognized causes are for this condition. Dr. Anders has often found that the phthisical thorax so-called, is a result rather than the cause of pulmonary tuberculosis. It may be due to mere delicacy in the patient's constitution. Therefore, in such cases, other modes of treatment must be instituted. Dr. Anders feels strongly that a new era is approaching in the study of gastrointestinal diseases by the *x*-ray.

Dr. Judson Daland, Philadelphia, said that in his opinion the most important points in Dr. Pfahler's paper are: First, the use of the admixture of bismuth and kefir, by which means the bismuth remains in suspension sixteen hours. Second, the utilization of the important and original observation in the fluoroscopic and radioscopic examination of the intestinal tract. Another point of interest is the ocular demonstration and measurement of the amount of gastroptosis and enteroptosis. A matter of equal importance is the demonstration of the relationship of the abdominal wall to the abdominal contents. When the wall is abnormally relaxed, the abdominal contents move downward and forward. In gastroptosis, extreme contraction of the muscles of the abdominal wall causes the stomach to ascend from two to six inches. In ordinary gastroptosis, the stomach returns to its normal position in recumbency. The standing-up exercises, so popular in military circles, are of particular value in correcting stoop shoulders, a condition of the normal vertebral curves and protuberance of the abdomen. When coupled with graded and systematic exercises designed to strengthen the abdominal muscles, the beneficial effect on the position of the abdominal contents is truly remarkable. These points Dr. Daland considers of extreme significance, not because they were not known heretofore, but because they have been made visible. The question of motility of the stomach is an important one and he believes that the explanation given, i. e., that displacement of the stomach and intestines without symptoms may be detected when associated with normal motility, is the true one, but he also believes that there are other explanations. It is very interesting to watch the movements of the stomach during the movements of the diaphragm, the beautiful slow, rhythmic and swaying movements that are observed during the ascent and descent of the diaphragm are most instructive, but impossible of adequate verbal description. Dr. Daland believes that duodenal obstruction, by kinking, plays an important rôle in certain obscure cases.

Dr. Daland has witnessed the results of swallowing six ounces of bismuth and kefir in a case of esophageal obstruction due to cancer of the cardiac end of the stomach. As soon as the mixture arrived at the obstruction, the esophagus slowly dilated forming an elongated triangle with the base downward, with a capacity of six ounces, forming a small secondary stomach which subsequently delivered its contents into the true stomach. In a normal individual, when the stomach is distended with gas and bismuth-kefir mixture is swallowed the mixture can be seen entering the stomach in a continuous tiny stream. Dr. Daland said that this valuable contribution of Dr. Pfahler makes possible the diagnosis of certain diseases of the alimentary tract in which hitherto diagnosis has been impossible or conjectural, and in other cases demonstrates a diagnosis already made and gives much additional information. Having observed many of the cases on which Dr. Pfahler bases his conclusions, Dr. Daland vouches for the accuracy of the work and the correctness of the deductions. He furthermore believes that the study of any serious or chronic affection of the alimentary tract is incomplete if *x*-ray examination is omitted.

Dr. Allen A. Jones, Buffalo, N. Y., said that members of the profession have been familiar with the disease known as gastroptosis and, in a therapeutic way, have for years practiced as best they could the measures that would, or should, increase intraabdominal pressure, and strengthen the tone of the abdominal muscles, by exercises, etc. Until the *x*-ray came into use, however, it was not possible for them to observe the exact position of the stomach before and after treatment, nor was it possible to observe the exact movements

of the stomach and intestines as done by Cannon, Pfahler, and others. Dr. Jones some years ago declared that, in his opinion, this condition commences early in life in not a few instances; it commences, he said, in childhood and finally develops into a pronounced gastroptosis. This is the result of several factors. Frequently we see this condition in children who are run down and in school, and in those who are liable to go without advice as to their diet and especially the amount of food they should eat. The rapid overdistension and overloading of the stomach common in children initiates gastroptosis. That is a more important factor in its causation than is generally assumed. Added to these factors fatigue of the stomach is a cause and that there are not more cases is due to the fact that all people are not constituted alike. The question of atony in gastroptosis is important, as the condition invites atony and predisposes to it. If atony does not exist early in gastroptosis as the nutrition suffers it will necessarily follow. In the treatment the general condition of the patient should receive attention in the endeavor to make him stronger; but it is a difficult matter to do this. The abdominal muscles may be exercised, but until the metabolism of the patient is such that nutrition is possible it is impossible to improve the state of the abdominal muscles or the gastrointestinal musculature. The most brilliant results follow not from the exercises, he asserted, but from the rest treatment. These patients should receive careful abdominal massage in the prone or inverted slanting posture, and electricity should be applied to the abdomen. They will improve, gaining sometimes, many pounds in weight. The possibility of this great gain results not from the exercises, but from some peculiar and wonderful influence on the nervous system that promotes the nutrition of the body.

Dr. J. C. Johnson, Atlanta, Ga., said that unless he has made mistakes in diagnosis he believes that he has cured a number of patients with gastroptosis. He is sure that he has seen a stomach displaced below the umbilicus in very emaciated patients whose weight was reduced almost one-half; he has seen it in several instances and he is bold enough to say that there was no doubt about the diagnosis. The *x*-ray was not used to make the diagnosis. There was the splashing sound and the distension from inflation, and other signs which left no doubt about the correct diagnosis. He examined one patient recently and the stomach was found to be in the normal position; this patient instead of weighing 91 pounds now weighed 164. This was nine years since the diagnosis of gastroptosis was made. He believes that the configuration of the body and the height should be considered in making a diagnosis of gastroptosis. He believes that motility of the stomach is more important than its position, and that ptosis of the stomach may exist and yet the motility be so increased that the patient may enjoy good health. There is no doubt about the ascent and descent of the abdominal organs in respiration; if anyone doubts, and wants to determine this point, let him, in cases of gastroptosis, take hold of the abdominal wall and pull up and see the chest elevate; it is remarkable how much effect this has and shows well the physical relation between the thorax and the abdominal organs. He has great faith in intragastric faradism, and he also endorses the use of the band. He said that his main object in discussing this paper was not only to express his appreciation of it but to say that he believes that in the great majority of the cases of gastroptosis in which the stomach can not be restored to the normal position, it can be so improved that the condition is hardly recognizable.

Dr. John A. Lichty, Pittsburg, said that he had followed Dr. Pfahler's work, but he has not had my patients examined by his method. The men who do this work told him that it requires a particular kind of tube, one of high intensity, and that the examination is a very expensive one, and they do not like to subject the patient to such an expense of this kind unless it is absolutely necessary. Only in exceptional cases is this method of examination necessary. During the past three years he has elaborated a method for determining the position of the stomach by auscultatory percussion which is very satisfactory. He mentioned this merely for the sake of those who are not willing to subject their patients to such an expense and who have not these facilities. One principle is involved in this method which must not be lost sight of: no matter how low the stomach will drop, the esophagus still extends up to the mouth and must pass under the left costal margin. The physician should first percuss over the left costal margin and notice the tone or note heard there; then he should bring a heavy phonendoscope, which need not be touched to hold it in place, down over the abdomen toward the umbilicus, by remembering the note it can be heard further down. Percussion can be continued over the costal margin noting the place where the same tone is heard. Dr. Lichty worked for years with this method before he gained confidence in it. In a large number of cases the true position of the stomach will be found by this method. He recently had a case in which he was doubtful of the method, in differentiating between a dilated colon and a prolapsed stomach. The splenic flexure of the colon may be high while the other portions may be low and dilated; one is easily mistaken in such cases. In the case he referred to, he dilated the stomach with air and confirmed the diagnosis with the stethoscope. When the laparotomy was performed the stomach was found exactly where he had mapped it by percussion and with the heavy phonendoscope.

Dr. Woods Hutchinson, New York, declared that there is a great difference in the condition of affairs in the elevated or erect position and that found after death in the dorsal decubitus. He said that he regrets that this study had not been carried a little further in order to confirm or to disprove conclusions that arise. Cannon's case in which the stomach had two pouches instead of a single one was curious. Dr. Hutchinson became convinced of the possibility of this condition several years ago by his studies of comparative anatomy. The central band of circular fibers of the pyloric antrum contract and shut off the acid region of the pylorus when active digestion takes place, and the food may remain alkaline in the other portion hours after it has been swallowed. Again, as Cannon states, there is a difference in the motility of the stomach and the rapidity with which the food is passed on according to the character of the food. Experiments made with milk showed that it passes on almost immediately and the size and the shape of the stomach differed greatly when a mixture containing starches was given. Dr. Hutchinson said that physicians had been in error in thinking that milk is easily digested because it gets out of the stomach quickly. He also spoke of the tendency to regard gastroptosis as a diseased condition. It is nothing but a symptom, he asserted, and should be so regarded. He believes that all who have seen a number of chronic invalids in sanatoria will testify that from one-half to two-thirds of the number have gastroptosis. The condition is very prevalent in tuberculous patients. He regards the military set-up drill as a ridiculous exercise in these cases; it is an exaggeration of the erect position, and diminishes the tonicity of the abdominal muscles. No prize fighter would assume that position excepting to protect himself by contracting the abdominal muscles; he takes the crouching position, and this is, Dr. Hutchinson said, more beneficial in developing muscular tone. He protested against placing movable organs in splints; no good results from permanent bandaging in these cases, though there may be temporary relief. These patients should be toned up generally by the rest cure and improved nutrition, as Dr. Allen Jones said. So soon as the bandage is removed, the abdomen relaxes again and the patient is no better than before.

Dr. G. E. Pfahler, Philadelphia, repeated the statement made in his paper, that the bandage only acts temporarily in order to enable the patient to be relieved of the symptoms long enough to gain nutrition and strength to support the abdominal contents. In regard to exercise, of course every physician realizes that each patient must be dealt with as a patient, and not according to rule. The abdominal walls should support the abdominal contents; when that support is gone, the object of treatment should be to replace that support. He said he had not carried on his investigations as to

the kind of food necessary, so far as he would like, because of the lack of time. He did not report in his paper one-half the work he has done and he intends to carry on investigations with other kinds of diet.

THE INFLUENCE OF FOOD AND OF EPITHELIAL ATROPHY ON THE MANIFESTATIONS OF SACCHARO-BUTYRIC INTESTINAL PUTREFACTION.

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(*Concluded from page 1969.*)

THE RESULTS OBTAINED.

These results indicate that the human intestine may contain spore-forming bacteria capable of splitting olive oil to a very large extent. In the case of the human material employed for inoculation, it is reasonable to suppose that the spore-forming putrefactive bacteria were responsible for the high degree of fat-splitting observed. This fact is the more noteworthy, as previous observers have found that the human feces in twenty-four hours split the fat from butter or milk to a considerably less extent (8 to 12 per cent. in experiments by Fr. Müller). It has been supposed by some writers that the high degree of fat-splitting observed in the human intestine, despite the exclusion of the pancreatic juice and the bile, may be in part referable to a vicarious secretion of pancreatic enzymes into the small intestine.

In view of the results above reported, this explanation appears to me quite unnecessary to account for the degree of fat-splitting that has been observed in human subjects from whose intestinal tracts the biliary and pancreatic secretions have been shut out by disease. In this connection I may say that in a dog from which the pancreatic juice and the bile had been completely shut out, a high degree of fat-splitting was observed above the middle of the large intestine where putrefaction was extremely active. At the present time I have not made observations with pure cultures of *B. aerogenes capsulatus*, but this organism as well as *B. putrificus*, which in the experiments just noted formed so little fatty acid, is liable to grow poorly in the medium employed unless this has been enriched with substances of intestinal origin.

In regard to the influence of fats on putrefaction in the human intestine, I know at present of no reliable clinical observations. I can only say on this point that patients on a mixed diet containing fat, who have shown an excess of ethereal sulphates and of indican in the urine, have shown a diminution in the excretion of these putrefactive products when the carbohydrates of the diet have been in a considerable degree substituted by fats of low melting point (that is butter, milk or meat fat). One can merely say, therefore, that moderate quantities of fat, when taken with proteids, probably do not increase the intestinal putrefaction in a significant way. It is possible, however, that the case may be different where very large quantities of fat are taken together with proteid. The introduction of large quantities of fat into the intestinal tract may confidently be expected to hinder mechanically the resorption of proteid food, and on this account to favor putrefactive decomposition if considerable numbers of putrefactive bacteria be present.

The following experimental observation may be recorded as bearing on the question of the influence of large quantities of fat on intestinal putrefaction where the bile and pancreatic juice have been effectively excluded from the duodenum.

A dog weighing 7 kilos was subjected by Dr. Carrel to an operation for resection of the bile duct and pancreatic duct. The animal recovered wholly from the operation, though developing jaundice and cholemia. Six weeks after the operation, the animal being in apparently good health, it was subjected to experiments in diet. The first of these experiments consisted in placing the animal on a diet of milk and bread. On this diet the feces were extremely fatty and had a strong odor of fatty acids, especially of butyric acid. Distillates from the intestinal contents showed only the faintest trace of indol, no skatol and no phenol. The urine, on repeated examinations, was entirely free from indican. This animal received two quarts of milk daily and varying, though considerable, quantities of bread. On this diet the animal was lively and apparently well. After a period of two weeks it was placed on a diet consisting of one pound of meat with from one to two ounces of meat fat. The feces were either neutral or after a few hours slightly ammoniacal. They contained an abundance of fat. Micro-organisms of the *B. aerogenes capsulatus* type were moderately but not extremely abundant, but were more numerous than in the milk feces. Distillates from the feces gave moderate indol reaction, a trace of phenol and no skatol. The urine regularly gave strong indican reaction. The animal appeared entirely well on this diet, which was maintained for over two weeks.

It was then placed for six days on a diet of ½ lb. of meat daily. On this diet the feces were scantier than before, lighter in color and firmer. Distillates from the feces showed the presence of indol in considerable amounts, no skatol and merely traces of phenol. The indican of the urine was considerable, although perhaps somewhat less than when on a diet containing one pound of meat daily. The observations made up to this point, therefore, indicated that the animal did well on the diet of milk and bread, on the meat diet containing considerable fat and on the more restricted meat diet. Immediately following the period of restricted meat diet, the animal was given one-half pound of meat and in addition one-half pound of meat fat. The meal was given in the morning. Early the following morning, within twenty-four hours, the animal died. The cage was found very much chewed and this was taken to indicate that the animal had been in pain. There was neither diarrhea nor vomiting.

At autopsy it was found that the entire digestive tract, especially the small intestine, was intensely congested, and there was associated edema of the lungs, making it probable that death was induced by heart failure from a pathologic accumulation of blood in the portal area. The entire small intestine was filled with a grayish material with an odor suggesting fatty acids and with a slightly sweetish quality. The duodenum and upper jejunum contained large quantities of mucus, in part intimately mixed with the fatty contents and in part lining these portions of the intestines. Without entering into details, it may be stated that the intestinal contents even above the middle of the small intestine and in the upper part of the jejunum contained indol in abundance, as shown by the distillates from even small quantities of this material when tested by the dimethylamidobenzaldehyd reaction and the β-naphthalquinon-monosulphonate test. Phenol was detected only in traces. Hydrogen sulphid was also abundantly formed.

The material obtained from the upper part of the small intestine where this intense putrefaction was going on was shown to contain *B. aerogenes capsulatus* in abundance and small doses of it proved characteristically fatal to guinea-pigs when subcutaneously injected. The lower part of the intestine also contained indol in great excess. It is to be regretted that the many studies which it was necessary to make on this animal within a short space of time made it inconvenient to make a quantitative determination of the indol for the entire digestive tract. The indol reactions obtained in small quantities of fecal material were, however, more intense than from

similar material on the earlier diet. The indican reaction of the urine was extremely intense.

Whatever interpretation may be placed on the occurrence of death after the addition of fat to the meat diet, there can be no doubt whatever that the enormous increase in intestinal putrefaction which was observed in this case was dependent on the addition of so large a quantity of fat to the meat, since in preceding periods a diet consisting of moderate quantities of fat and twice as much meat daily gave rise to no symptoms whatever. It appears that in this instance the addition of the abundance of fat to the meat was followed by symptoms not unlike those that are ascribed in man to ptomain poisoning. This fact is especially noteworthy, since in the experiment just recorded the animal received no carbohydrate food and had in the stomach and intestine only such slight quantities of carbohydrates as are contained in beef.

An attempt was made to duplicate these results in a dog in which the biliary and pancreatic ducts were tied at my request by Dr. A. N. Richards. In this animal the conditions noted in the preceding experiments on a milk diet and diets containing meat and moderate quantities of fat were almost exactly reproduced. The feeding of one-half pound of meat and one-half pound of beef fat was, however, not followed by gastroenteritis as in the preceding case, but after about twenty-four hours by vomiting. The animal continued to take large quantities of fat with the meat, but regularly vomited the larger part of it after a few hours, so that the intestinal tract was not subjected to the consequences of the very large excess of fat in the presence of abundant meat proteids.[8] No such effects are observed in normal dogs placed on a similar diet.

THE INFLUENCE OF PROTEINS.

What is definitely known of the influence of proteins on the course of the saccharo-butyric process can be stated briefly. Under favorable conditions the putrefactive anaërobes attack proteins vigorously with a yield of ammonia, butyric and other volatile fatty acids, hydrogen and hydrogen sulphid. Whether basic products other than ammonia are formed is at present uncertain. As already stated, there are varieties of *B. putrificus* and of *B. aerogenes capsulatus* that give rise to indol. There are strains of *B. putrificus* (Bienstock) and of *B. oedematis maligni* that form skatol. Neither skatol nor indol are formed by some strains of these bacteria obtained from the digestive tract of man. When indol and skatol are formed their appearance is referable to the ability of the anaërobes to attack tryptophan—a fact first demonstrated by Hopkins for the anaërobic bacillus of quarter-evil.

We are almost without knowledge regarding the influence of the constitution of different proteins on the decomposition products that result from the action of putrefactive anaërobes, and this gap is one which it is very desirable to fill by future studies. Proteins which, like casein, yield tryptophan abundantly, may confidently be expected to yield indol freely in the presence of indol-forming bacteria.[9] The chemical conditions under which putrefactive anaërobes give rise to skatol rather than indol are, as already mentioned, still unknown. The absence of the tryptophan nucleus in gelatin explains the failure of this substance to yield indol on putrefaction. A better knowledge of the putrefactive products from casein, from egg-albumin, from serum-albumin, from myosin and from gliadin (each of which yields distinctive proportions of various amino-acids on hydrolysis) is likely to prove helpful in enabling physicians more intelligently to control various types of putrefactive decomposition.[10]

One fact of practical significance stands out plainly with reference to the use of proteid food in cases of saccharo-butyric putrefaction, namely, that it is very common in this condition to find in the feces considerably more unutilized proteid than is found in normal persons of the same weight and on the same diet. There is, in other words, a diminished power of resorption of proteins attributable, I believe, to the slight or marked chronic enteritis of which I have found evidence in cases of chronic infection from *B. aerogenes capsulatus*.

In consequence of this diminished power of absorption, considerable proteid finds its way into the region in which the putrefactive anaërobes are most numerous —the lower ileum and the colon. This condition calls for notice by the physician and makes it incumbent on him to endeavor to reduce the proportion of unabsorbed proteins that find their way into the colon. There are three principal ways in which this improvement may be attempted with reasonable hope of success:

1. By reducing the quantity of the protein of the food.

2. By alternating the character of the protein ingested.

3. By means which, like physical and mental rest, improve the absorption of foodstuffs and at the same time diminish the protein requirements of the organism.

On the other hand, there is no more certain way of increasing the multiplication of the putrefactive anaërobes in the colon than by permitting the use of a large quantity of protein, provided the carbohydrate food be not simultaneously reduced. But, since the putrefactive anaërobes of the intestine, with the exception of *B. putrificus* (Bienstock), do not energetically decompose native proteids in the absence of carbohydrates, it is permissible for short periods to give a generous allowance of protein food,[11] if at the same time carbohydrates be absolutely excluded. Under these conditions an amount of meat can be taken with diminishing intestinal putrefaction, which, under the free use of carbohydrates, would certainly lead to an increase in the putrefactive products in the intestine and in the urine.

In all severe cases of excessive saccharo-butyric putrefaction a strict diet of egg-albumin, minced beef and water may be recommended from time to time for a period of forty-eight hours, with considerable confidence that it will cause a diminution in the formation of putrefactive substances and a coincident alleviation of the various symptoms liable to attend this process. This holds true, notwithstanding that in general the formation of indol is more likely to occur on a diet containing meat protein than on a diet containing milk. The objection to milk in severe exacerbations of saccharo-butyric putrefaction arises from the sugar which it con-

8. The same experience with a fat-rich diet was several times repeated in this dog. Sometimes vomiting did not occur until two or three days after the commencement of the fatty diet.

9. Some bacteria incapable of forming indols are unable to make this substance even when they are furnished with tryptophan. I have found this to be true of the bacillus of typhoid fever.

10. It appears especially desirable to study the putrefactive products derived from fish by the action of the intestinal anaërobes since persons exhibiting the signs of well-marked saccharo-butyric putrefaction seem especially susceptible to exacerbations after eating fish, sometimes even when the quantity taken is very small.

11. Probably best in the form of egg albumin and minced beef with the addition of gelatin.

tains. If on a meat and egg-albumin diet the indican does not diminish in consequence of better resorption and owing to some inhibition in the multiplication of anaërobic bacteria, then milk preparations should be tried in which the sugar has been removed by lactic acid fermentation.

In any consideration of the putrefaction of proteids in the intestine through the agency of *B. aerogenes capsulatus* or other anaërobes, it is desirable to touch on the therapeutic use of certain bacterial antagonists which have lately been somewhat insistently recommended in disorders of digestion. The idea has long been current that the fermentation of carbohydrates has an inhibitory action on putrefaction owing to the acids formed.[12] This idea is justified in so far as it is true that the presence of considerable free acid is in general unfavorable to putrefaction, which proceeds most rapidly where there is available alkali for the neutralization of acid. But, as pointed out in the preceding pages, it is not impossible for putrefaction to proceed energetically in spite of the distinctly acid reaction in the small intestine.

THE CLINICAL VALUE OF THE LACTOBACILLUS.

The widespread use, in digestive disorders, of milk that has undergone lactic acid fermentation is based on empirical clinical observations and on the belief that these products in some way better the bacterial conditions in the intestinal tract. Within the past year extravagant claims have been made in respect to the beneficial results to be expected in digestive disorders from the use of milk fermented with Metchnikoff's lactobacillus[13] or from the use of pills made from this lactic-acid-forming bacillus. I have for many years used fermented milks in the treatment of putrefactive disorders and have latterly made a number of experiments with milk fermented with Metchnikoff's lactobacillus. While I have not yet a sufficient number of observations on human beings to justify me in making a specific criticism of the lactobacillus milk, there are some features attending the use of the preparation which emerge clearly from the experiments already made and which I wish to mention here for the reason that they may serve the purpose of averting some therapeutic disappointments based on misconceptions regarding the theory of the action of lactic-acid bacilli in putrefactive intestinal disorders.[14]

The lactobacillus is an exceptionally active producer of lactic acid, and milk that has been fermented by it for two days at body temperature is so strongly acid as to render it repellant to many persons. A shorter period in the incubator yields a product that contains less acid and is more palatable. If milk thus fermented be fed to a dog in which the ileum passes directly into the sigmoid flexure, the feces will be found to have a slightly acid reaction and to possess the peculiar glutinous consistence characteristic of the milk itself. Moreover, by suitable cultural procedures the large, dominant, Gram-positive bacilli found in the intestinal contents in large numbers can be shown to be the lactobacilli of the milk.[15] These bacilli have, therefore, not merely preserved their morphology in the passage through the tract, but at least some of them are still viable. Moreover, if the ethereal sulphates of the urine be studied in dogs thus fed, as was done by Dr. Baldwin at my request, it will be found that the sulphates are excreted in very small amounts. I do not consider it proven that the ethereal sulphates are lower in normal dogs fed on lactobacillus milk than in dogs fed on reasonably clean cow's milk, but the figures obtained in my laboratory under these two conditions point to a slight difference in favor of the fermented milk.

It should next be noted that if one adds a pure culture of *B. aerogenes capsulatus* to a growing culture of the lactobacillus in milk, the former organisms make little or no progress in growth, perhaps because the milk is too acid, but more likely (in the cases at least where the milk has not attained the maximal acidity) because suitable anaërobic conditions and suitable food are wanting. On the other hand, if the *B. aerogenes capsulatus* be inoculated into fermentation-tubes containing litmus milk, it will produce gas and butyric acid there despite the presence of the lactobacillus.

Even when both types of organism were simultaneously inoculated it appeared that the lactobacillus was much impeded in its development. Finally, if a neutral reaction be maintained in a nutrient medium in which *B. aerogenes capsulatus* is growing, the lactobacillus is unable to make any progress. On the whole, we may say that the lactobacillus requires for its active multiplication much more special nutritive conditions than the *B. aerogenes capsulatus*, although the latter is at a disadvantage in needing anaërobic conditions, while the former prospers with or without oxygen, if grown on milk that has been sterilized and is permitted to contain some free acid.

We may now roughly picture what happens when the lactobacilli are introduced in large numbers into the digestive tract of a patient suffering from severe chronic saccharo-butyric putrefaction, with the *B. aerogenes capsulatus* as the dominant anaërobe to be controlled. We may assume, for the sake of argument, that in this patient the bacillus has succeeded in establishing itself at a level nearly as high as the middle of the small intestine, and that it makes its way to somewhat higher levels when an abundance of easily fermentable carbohydrate food reaches the former level. The introduction of a meal consisting wholly of milk fermented by the lactobacillus will provide conditions in the stomach and upper small intestine against which the gas-bacillus can probably make no progress, if one may judge from experimental conditions outside the body.

With the progressive absorption of the lactic acid formed by the lactobacillus the conditions would be altered in the direction of rendering them more favorable to the multiplication of the gas-bacilli located at or

12. I showed in 1897 that the injection of cultures of lactic-acid-forming bacilli into the intestinal tract had the effect of diminishing intestinal putrefaction in dogs. I was at this time unaware that Metchnikoff was making studies to determine the effect of certain lactic acid bacilli on human intestinal putrefaction. (On Certain Relations Between Bacterial Activity in the Intestine and the Indices of the Urine, Brit. Med. Jour., 1897, ii, p. 1847.)

13. This organism occurs as a long, straight rod, with square ends with a tendency to form threads. It is non-motile, aërobic, and grows well in the lower part of the tube. The organism is Gram-positive. Dr. Collins was unable to obtain growths on plain nutrient agar, on bouillon, on glucose agar, on glucose-bouillon, lactose bouillon or on saccharose-bouillon. Fairly good growths were obtained from biervort-agar (10 per cent.). The organism grows well in milk, forming a soft, uniform curd, during the first-thirty-six hours. The period required to bring about coagulation varies. The fermented milk is markedly acid. Later the coagulum becomes firm, and still later, undergoes liquefaction. The organism must be frequently transferred to retain its viability.

14. One claim made for the lactobacillus sold in New York is that it is superior to other fermented milks in being free from yeasts. Dr. Collins has found a yeast in some samples of this milk, and Dr. Pilliard called my attention to the frequent occurrence of a difficultly cultivable yeast organism.

15. This was first shown by Dr. Catherine Collins in my laboratory.

near the upper level of the infection, and the presence of a little unchanged sugar would, indeed, favor their growth. With the reduction of the acidity to a point approaching neutrality to litmus, the gas-bacilli would find opportunity for free growth on the casein of the milk provided a slight amount of sugar were present. The multiplication of the gas-bacilli would proceed with great rapidity as soon as the food and the intestinal juices became neutral or alkaline.

But just at this point we lack definite knowledge of the conditions that actually exist in the human intestine in such cases as we are picturing. Yet on one point a positive statement may be made with confidence. It is that intestinal putrefaction may continue very excessive in spite of the free or even exclusive use of milk fermented by the lactobacillus. There is no evidence whatever that the organisms of the lactobacillus milk or other fermented milks are able to restrain specifically the growth of *B. aerogenes capsulatus*. The intestine continues to hold these anaërobes in large numbers and in a living state, as can easily be shown in some instances by injecting into experimental animals intestinal material heated at 80 C. Such limitation of the anaërobes as is effected depends, I believe, on the absence of carbohydrates in the fermentable milk and on the presence of lactic acid. It is extremely doubtful if the lactobacillus multiplies on other food than the milk in which it is taken. The pathologic nature of some of these severer cases of infection through anaërobes will be discussed under another heading.

There can be no doubt that lactobacillus milk possesses certain advantages over natural milk in the treatment of chronic saccharo-butyric putrefaction. Of these, the chief are the ability of the bacilli to make lactic acid freely from soluble carbohydrates and to subdivide and transform the casein in such a way as to render it more readily absorbed than the casein of unchanged milk. Whether the lactobacillus by virtue of its powerful lactic acid-making properties possesses real advantages over the micro-organic ferments used in the production of kumyss, kefir, zoolak, etc., I shall not attempt to discuss here.

INFLUENCE OF EPITHELIAL ATROPHY.

It is a little singular that in the study of the factors entering into chronic gastroenteric disease so little stress has been laid on the influence of atrophy of the intestinal epithelium. There are, indeed, papers relating to epithelial atrophy in the small intestine in pernicious anemia, in the marantic atrophy of infants and in some other pathologic states, but I am not acquainted with any writings that indicate the significant consequences to the organism that may be expected to arise from extensive atrophies of the intestinal epithelium.

There are certain obvious difficulties in pursuing this subject from the standpoint of pathologic anatomy—especially the difficulty in obtaining autopsies at so early a period after death as to insure certainty that the epithelial denudation observed is not a postmortem change, and the difficulty in deciding on anatomic evidence whether the atrophies noted have been secondary to their associated pathologic states or have stood in a causal relation to such associated states. What I have to say in this connection is advanced as a suggestion directed toward further inquiries and is based on clinical observations and physiologic considerations rather than on experience with postmortem appearances.

There are at least three well-recognized conditions of disease in which the tongue shows atrophic alterations in its epithelium:

1. The glossitis known as wandering rash of the tongue, geographical tongue, or Müller's superficial glossitis.

2. The more general glossitis with epithelial denudation that occurs in the form of tropical diarrhea known as sprue.

3. The glossitis with denudation of epithelium that is so frequently noticed in persons with pernicious anemia.

Overlapping these conditions to an extent at present not accurately definable is the process of chronic saccharo-butyric putrefaction in which I have now observed epithelial atrophy of the tongue, of varying extent in several patients. That the saccharo-butyric process is highly developed in many persons suffering from pernicious anemia may be regarded as established. The process is also well developed in some persons, both children and adults, suffering from Müller's superficial glossitis, but I have not had sufficient experience to say how frequent is this association. In the case of indubitable sprue, I have had no opportunity for study. I have, however, had under observation an elderly gentleman with a chronic diarrhea due to saccharo-butyric putrefaction (from infection with *B. aerogenes capsulatus*) in which all the leading symptoms mentioned by Sir Patrick Manson in his description of sprue were present. It seems, therefore, well worth while to study sprue with the putrefactive anaërobes in mind and also to inquire whether essentially the same condition does not sometimes occur in temperate climates.

In cases of wandering rash of the tongue[16] and in chronic saccharo-butyric putrefaction with and without advanced anemia, it is very common to find an entire absence of free hydrochloric acid in the gastric juices, and there is some reason to believe that where this is of years' standing it is apt to be associated with a degree of atrophy of the epithelium of the gastric tubules.

It is also certain that in many cases of pernicious anemia and in severe saccharo-butyric putrefaction generally the feces contain an excess of epithelial elements and mucus. As already stated, the epithelial structures may be strikingly abundant. It is clear that from this excessive desquamation no inference can be safely made as to whether atrophy of the epithelial structures of the intestine exists or not, the reparative ability of these structures of the mucous membrane of the intestine being of the highest order. There is, however, no doubt that after years of damage these cells lose in a measure their power of reproducing the epithelial structures of the gut.

Unfortunately we have at present no certain criterion for gauging the degree and extent of this damage to the epithelial structures. In my judgment, it is of the first importance for the physician to be able to form an estimate of the permanent damage that has been done to the epithelium, since the ultimate prognosis in cases of chronic saccharo-butyric putrefaction must be largely conditioned on the state of these epithelial cells. There

16. The epithelial atrophy in these cases may involve patches of mucous membrane of the mouth as well as the tongue. I consider it significant that the lesions of the tongue in Müller's superficial glossitis are certain to be temporarily greatly exaggerated by whatever conditions give rise to gastritis or gastroenteritis or to exacerbations of chronic gastroenteritis. We have in this fact an example of a perfectly definite relation between the state of the gastroenteric mucous membrane and the condition of the tongue. This relationship holds good even where it is possible to exclude food irritants as factors in the exacerbation of the lesions in the mouth.

are probably instances of epithelial denudation or atrophy in which regeneration is prevented by the continual presence of irritants formed in the course of the putrefactive decomposition induced by putrefactive anaërobes (doubtless sometimes in association with other bacteria, especially streptococcal forms). These are the instances in which suitable diet, lavage, rest, etc., are beneficial.

On the other hand, it appears reasonable to suppose that there are patients in whom the epithelial atrophy has progressed so far that no therapeutic measures can avail to restore the epithelium to a degree of functional activity sufficient to maintain the organism, as a whole, on a level that makes it possible for the patient to escape being bed-ridden. If this conception of the pathologic basis of severe cases of chronic saccharo-butyric putrefaction be correct, it is unreasonable to condemn therapeutic measures which, though helpful in less advanced cases, are not effective in those extreme ones. What is required is more discrimination in the study of these cases and a better conception of what may naturally be expected from therapeutic interference.

The physiologic conditions present in extreme atrophy of the epithelium of the small intestine present a close parallelism to those in chronic nephritis with small granular kidneys. In both cases there is failure in function because of damage to epithelial structures. In the case of kidney disease this is obvious because the epithelial cells are closely concentrated in an organ presenting gross and microscopic appearances of a striking character. In the case of the intestine the significance of the lesions is overlooked because the damage is spread over a longer area of mucous membrane, the epithelial structures of which should, in reality, be regarded as constituting an organ despite the fact that they are not bound together by connective tissues into a structure so definitely limited as to impress obtrusively the eye of the examiner.

Another reason, perhaps, which has favored the underestimation of the importance of the epithelial atrophies in the intestine is the fact that one is apt to consider processes in the gut as going on within the lumen of the gut—and hence easily to be modified—rather than in the walls of the intestine itself. We have long been familiar with the conception that epithelial atrophy of the kidney may reach a point where it is unreasonable to expect to avert uremia. It is important for us to grow familiar with the analogous conception that ordinary therapeutic measures can not be expected to rescue from failing nutrition those patients who have acquired extensive intestinal epithelial atrophies. I am willing, however, to venture the opinion that we have not yet learned to give such patients the fullest benefit of the cellular activities still possessed by them.

RESULTS OF EPITHELIAL ATROPHY.

In conclusion, I desire to sketch some of the possible consequences of extensive epithelial atrophy in the small intestine. Among such consequences one might expect an impaired secretion of the succus entericus, a diminished production of erepsin, a diminished secretion of secretin (the latter leading to diminished pancreatic activity). An impaired secretion of fluids from the blood into the intestine, as under the influence of saline cathartics, is to be expected under these conditions, and it is possible that we have here an explanation of the failure of saline cathartics to act readily in long-standing cases of intestinal inflammation. With impaired secretion must necessarily be coupled an impaired absorption of digestive products.

One may reasonably picture, moreover, a diminished capacity of the epithelial cells for decomposing certain cleavage products of digestion, as, for example, the amino acids which are known to be disamidized in the intestinal walls. Likewise the synthesis of fatty acids and glycerin into neutral fats might be expected to be less efficient than normal. Again one would expect an impaired power of binding certain toxic bodies formed in the intestine, as, for example, indol, which I have found to be bound with avidity by epithelial cells of the intestine. The lessened ability to transform toxic substances into less harmful ones may perhaps facilitate damage to red blood cells exposed to such poisons in the congested areas of the intestinal tract which are known to exist in some cases of disease from chronic anaërobic infections.

An increased permeability of the intestinal wall to bacteria is almost certainly a consequence of denudation of the epithelium. At present, however, it is impossible to form an opinion as to the extent to which this factor is operative in leading to injurious consequences secondary to disease of the digestive tract due to anaërobic organisms.

In chronic saccharo-butyric putrefaction we find at least some of the conditions which may be expected where there is reduced epithelial activity, especially a permanently diminished power of resorption for proteids and fats and a consequent failure in nutrition.

CONCLUSIONS TO BE DRAWN.

Certain practical conclusions may safely be drawn from the facts advanced in the foregoing pages, and of these the chief are as follows:

In well-defined cases of saccharo-butyric putrefaction carbohydrate food is vigorously attacked by the intestinal bacteria and must therefore be carefully restricted in all cases. Fats of low melting point (butter, beef-fat) are well tolerated in moderate quantities and should be rather freely used, to replace carbohydrate in part, provided no increase in intestinal putrefaction is attributable to their use. Of proteins, those of milk and of beef are well tolerated and utilized in moderate amounts, and when taken with only small quantities of carbohydrates, but if eaten in abundance are followed by increased putrefaction, which is the more pronounced the more abundant are the associated carbohydrates.

In long-standing cases, with indications of epithelial atrophy, the restriction of all classes of foods may be essential to diminish putrefactive intestinal decomposition within limits that are essential to repress various obstructive symptoms. In order that the caloric needs of the body should not be too glaringly disproportionate to the food supply that can be tolerated these needs must be cut down by causing the patient for a time to rest in bed and to relinquish active mental occupation. This course usually leads to an increased tolerance and utilization of food-stuffs. During this period of rest the diet should at first consist mainly of proteids and fats (milk, fermented milk, minced beef, gelatin), the carbohydrates with low sugar content being very cautiously added as the signs of excessive putrefaction recede. In a certain number of patients such a period of rest and dietetic caution, lasting from two weeks to two months, is followed by great improvement. On the other hand, in patients with extreme epithelial atrophies and extreme, persistent putrefaction, little permanent benefit is to be

expected from any method of treatment at present known, especially if nutrition has suffered severely and blood destruction has long been out of proportion to the powers of regeneration; and this conclusion holds especially true of patients in whom systematic rest and appropriate diet have already been conscientiously tried.

THE RECENT EPIDEMIC OF POLIOMYELITIS.

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Early in the summer there began to appear at the out-patient department of the Hospital for Ruptured and Crippled recent cases of acute poliomyelitis, and the number increased from month to month until toward the close of October, when it began to diminish. The height of the epidemic, for such it was, was in September, when 138 new cases were recorded on the books of the hospital, so that all the members of the out-patient as well as the in-patient staff had an opportunity of studying this disease in a comparatively early stage.

In some unknown way the subject was discussed in the daily press and the hospital became a storm center. Boards of health and doctors from different parts of the country, as well as reporters on the daily papers, seek data on the subject, and it has been rather difficult to satisfy the demands of the public for information. The hospital authorities, while they have aimed to be courteous to all comers, have given the public to understand that it was a matter purely of professional interest, and we sought Dr. Flexner's aid in assisting us in determining the etiologic factors.

Dr. Joseph F. Terriberry, one of the neurologists to out-patients, was among the first to appreciate the gravity of the situation, making an earnest plea to have children admitted to the wards in the early stages of the disease, and we did admit children as young as 18 months of age when our age limit was four years. The Rockefeller Institute has ably assisted us in the study of the cases; for example, stools were collected and sent to the laboratory, blood was obtained, and in some cases lumbar punctures were made. With neurologic aid from Drs. Terriberry and Romeister, great care has been exercised in diagnosis. The aim has been, therefore, to sift the material thoroughly, and we are prepared to give the data so far as careful investigation could obtain it extending from June 1 to November 1.

Since September 8 one of us (Gibney) has had six or eight cases in private practice, cases which developed in the suburbs of New York City, and he has had an opportunity of investigating the symptomatology from close contact of some of the cases which have appeared during the present epidemic. One case in particular is of interest:

History.—A male child, 16 months of age, was brought by Dr. Albert D. Eckerson, of Mt. Vernon, N. Y., September 28, 1907, with this history. Three weeks previously he had some intestinal disorder which was rather troublesome, and on September 13, had a fall while standing by a bath-tub and struck the right temple. The child did not care to walk, although 16 months of age and had been walking. He had a little fever but this was thought to be due to a tooth which appeared September 16. On September 18, he was unable to move the left lower limb in any way, but after a few days began to improve. On examination there was no power to make dorsoflexion of the foot; if the sole of the foot were tickled he would draw the limb up feebly but would assist by means of his hand. Extension of the left leg was feeble, flexion of the thigh was weak but he could extend the thigh fairly well, while the power in the abductors and adductors of the thigh was markedly diminished. The foot was cold to the touch, limbs equal in length, patella tendon reflexes abolished, no ankle clonus and the thigh ½ inch smaller than its fellow. A diagnosis, therefore, of acute poliomyelitis was made and the father, who was something of a mechanic, was advised to make a splint out of box-wood, line it with flannel, and keep the foot at right angles, and Dr. Eckerson was advised to use iodin to the spine as a counter-irritant. At the same time the measure was taken for a brace to protect the joints and diminish the strain on the already weakened muscles. Instructions were followed to the letter, and on October 4, when the child returned to have the apparatus applied, there was no longer any need for it, as the power in the lower limb was about as good as that in the right, and the child was discharged cured.

This case was instructive from the prognostic point of view. In an article published in THE JOURNAL of the American Medical Association,[1] by Harbitz and Scheel, on "An Epidemic of Acute Poliomyelitis in Norway in the Years 1903-1906," mention is made of certain cases that recovered in a few days. They speak of these cases, in which the patients have "transient fever, headache, vomiting, angina, pains in trunk and limbs, sometimes twitchings, but without subsequent paralysis." We have found the same true in some cases included in this report. As a comparison with the above case is the following:

History.—A boy, aged 12, was admitted to the hospital Oct. 8, 1907. Fourteen weeks prior to this date he had had a fall, the nature of which is not known, but it was unattended by any immediate results. Two days after this fall he became ill, had anorexia, headache, pain in both legs and the left one more particularly. There was no history of any intestinal disorder. Two days after the onset it was discovered that there was paralysis of both lower extremities, that of the left being more marked. On the day following his admission to the hospital, it was noted that he was unable to stand or walk, while the upper extremities were perfect. The flexors and abductors of the right thigh were perfectly normal while the extensors and adductors were weak. There was complete paralysis of the quadriceps femoris as well as of the muscles of the foot and leg. The patella tendon reflexes were absent. In the left lower extremity there was evidently complete paralysis of the entire limb except the tensor vaginæ femoris; the patella tendon reflexes were absent here also. Lumbar puncture was made and a few drops of clear fluid were obtained and sent to a pathologist, who reported negatively. Electrical tests were made at the time, but it was deemed best to keep the boy in bed and await events. At this time there was no deformity, the temperature charts showed no rise until the next few days. The treatment therefore was rest in bed only until November 1, when it was found that the hamstrings, Achilles tendons, and flexors of the thigh were contracted almost to the point of marked contracture of the limb, and already the deformities with which we are so familiar were coming on apace. Electrical tests were made with the following results: On the right side the quadriceps femoris showed the reaction of degeneration; the crural nerves stimulated by faradism showed decreased irritability of the adductors and no reaction in the quadriceps; the sartorius was apparently intact; the external popliteal was normal except for decreased excitability for faradism and galvanism. There was no response of the gastrocnemius, due to contractures; a similar condition existed in the plantar muscles; there was no response of the anterior tibial to faradism; the upper portion of vastus

* A preliminary report from the Hospital for Ruptured and Crippled.

1. October 26, 1907, 1429.

internus apparently responded to faradism of the crural nerve. On the left side there was reaction of degeneration in the quadriceps and adductors of the thigh, the external popliteal showed reaction of degeneration and a like condition of the extensors; contractures interfered with a positive reaction of the flexors but there seemed to be a partial reaction of degeneration in the gastrocnemius. It was deemed best then to administer an anesthetic and pull the limbs into good position, and there was much resistance encountered. To maintain the corrected position a double plaster spica bandage, which included the feet, was applied.

In these cases it is natural to infer that the infection invaded the meninges as well as the anterior cornua. Indeed we learn from the present epidemic that poliomyelitis is not the sole lesion in these cases, that frequently, as has been pointed out by Harbitz and Scheel, the entire cerebrospinal axis is more or less involved. Take, for instance, the following case:

History.—A boy, aged 7, was seen on October 16, 1907. About the middle of September he began to tire easily, had a feeling of lassitude and was somnolent. He was promptly taken from school, and on account of a temperature of from 102 to 103 F., was put to bed for a week or ten days. Typhoid fever was suspected and a specimen of his blood was sent to the board of health for examination, with negative result. He was drowsy most of the time, had a good deal of twitching, and complained of pain in his right calf and later in the upper portion of the spinal column. When he began to get around again, his mother noticed that he turned the right foot out in walking, and complained of weakness and pain in this limb. In this case there was no special intestinal disorder. When examined the right calf was ½ inch smaller than the left, there was marked weak-foot, and partial paralysis of the perineal muscles. He was seen again Nov. 6, and showed marked improvement, and the outlook is very good.

The occurrence of the epidemic during the summer months has suggested a mode of infection through the intestinal tract. In getting the histories it not uncommonly appears that paralyses were preceded by diarrhea or dysentery, and while the cases, as they came in such great numbers, were not analyzed carefully with this point in view, we have been able to get accurate data in 100 patients. It is found that diarrhea and vomiting occurred in 19 per cent., that vomiting and constipation occurred in 11 per cent., diarrhea alone in 11 per cent., constipation alone in 11 per cent. and vomiting alone in 11 per cent., making 63 per cent. that were at least the objects of suspicion. In proof of the severity of the epidemic we find that at the hospital alone from June 1, 1906, to Nov. 1, 1906, the cases of acute poliomyelitis were distributed as follows: In June 4 cases, in July 3, in August 7, in September 11, in October 14, making a total of 39 cases, of which 24 were males and 15 females. For the corresponding months in 1907 there were in June 17 cases, in July 24, in August 86, in September 138, in October 122, making a total of 387 cases, of which 216 were males and 171 females. Thus there was very nearly ten times the number that came under observation in the summer and fall of 1906.

Special care has been taken to separate the old cases of paralysis after poliomyelitis from those of recent date, not later than May 27, 1907, and the statistics here presented therefore include only those that belong to the present epidemic. It must be borne in mind that cases of many years' standing are constantly applying for treatment at the hospital, and the tabulation of such material is of no assistance in the present inquiry.

Another point of interest is a comparative statement of the ages. For instance in 1907 there were 36 cases that developed during the first year of life, while in 1906 there was only 1. There were 105 during the second year this summer, and 14 last. Cases developing during the third year numbered 97 in 1907, 12 in 1906. During the fourth year there were 69 this summer, 5 last. Between 5 and 8 years there were 18 this summer, none last, and there were 4 developed the disease after the twelfth year during this epidemic, while there were none last summer. This shows pretty conclusively that the present epidemic included children beyond the infantile period of life. Whether this has any bearing on milk as an etiologic factor we are unable to say, only we would suggest, from our knowledge of boys and girls, that after they reach 5 years very few of them care for milk. We happen to know many heads of families who offer bribes and all sorts of inducements to children between 6 and 12 years to include milk in their diet.

In the discussion which took place at the pediatric section recently various views were expressed as to the severity or the reverse of this epidemic. One or two pediatrists claimed that a number of fatal cases had been recorded. At the Hospital for Ruptured and Crippled we have no such records. In explanation of this it may be stated that out-patients usually come for some form of apparatus and have passed the critical period, namely, that period when there are meningeal and bulbar symptoms, etc.

Furthermore, and this statement is apologetic, the members of the staff have been so crowded this summer with new material that the records are incomplete. For instance, the name is recorded, age, diagnosis and duration. The character of the men, however, in attendance at the hospital is sufficient guarantee that the diagnosis is recorded after pretty thorough examination. Not only this, but the neurologist is called in to verify, and we feel pretty sure that there have been very few errors in diagnosis. In common with all observers, we are in the habit of recording more details when a subject is under scientific investigation. The final results, or even the proximate results, are not on record thus far because sufficient time has not elapsed, and this report must necessarily be preliminary.

TREATMENT.

We shall have occasion later to report on the therapeutics of poliomyelitis, and it is a hopeful sign when pediatrists and neurologists invariably, when discussing the therapeutic problems of this disease, say that orthopedic treatment is by far the most essential factor in the management of the resulting disability and deformities. We accept the challenge with great pleasure and feel like retorting that we would like to get them earlier. Our treatment would be, just as soon as the diagnosis is established, about as follows: Protect the limb or limbs from strain at the joints by means of a trough, either of wire, wood, light steel or plaster-of-Paris, well padded with cotton batting; keep the feet at right angles with the legs, the knees in slight flexion or very nearly straight, and the thighs on a line with the long axis of the body.

In other words, we would aim to prevent any deformities which would arise by the false positions into which the child puts the limbs whereby he seeks to prevent strain himself. The limb in these false positions becomes fixed sometimes by contractions and then contractures, and so long as the opposing muscles may be more or less completely palsied deformity is very easily induced. Given now a meningeal lesion, as so frequently

complicates, deformities can be the more easily induced. We would not resort to massage or electricity or to vibromassage or to any of those excitants of the muscles or nerves until we feel pretty sure that all inflammatory changes have undergone resolution in the cerebrospinal axis.

We would like to have the counsel then of a neurologist who would conduct the electric treatment. For it must be understood now that orthopedic surgeons do not as a rule discourage these valuable aids in cases of this kind. We do sometimes object to the use of electricity in the paralyses of many years' standing, but during the first year we feel that every aid must be employed to bring about the best possible result. We do object, however, to fatigue of the muscles or strain by having the children urged to swing about a dangle-leg and bear weight on a weakened joint. The do object to having these partially paralyzed muscles strained beyond endurance, and we do believe that, if such measures are employed, further destruction of the ganglion cells in the anterior cornua is a result. In other words, we believe in husbanding all our resources and in this way encouraging regenerations of these ganglion cells, and we use this term with all due respect to the teachings of pathology.

We aim, furthermore, to avoid straining the capsule or ligaments of the joint, because when these are weakened the muscles are called on to still greater efforts. We believe in preventing deformity rather than having to correct it. We believe, finally, that if the limbs are kept in normal position, all these therapeutic aids which go to the overdeveloping of the muscle fibers not completely destroyed, to the stimulation of weakened muscle fibers in danger of acute atrophy, and to improving the circulation of the limb (terms mighty popular with the advocates of all forms of electricity, massage, vacuum treatment, *et id omne genus*)—all will be much more efficient, and our prognoses will be infinitely better than they have been in the past.

We do object to interference on the part of well-meaning friends in and out of the profession. Such interference as this: "Take off that heavy brace and let the child use the limb and make him walk." Many and many a time patients have followed such advice and have come back to the same form of apparatus and have derived benefit even when applied in the later stages of the disease. We would advocate, as a further remedial measure in these early cases, artificial hyperemia of the parts in the neighborhood of the cord, such as cupping in the younger children, the Paquelin cautery in the older ones, iodin, and other forms of counter-irritation, if more vigorous ones can not be employed. If there are intestinal complications let the family physician help out in taking care of this factor.

We have been able to treat six or seven cases in the hospital over a period of from six to eight weeks, and practically no treatment has been employed other than rest in bed. In looking over the notes of these cases we find that none have been under observation sufficiently long to be utilized in this communication.

In discussing certain features of the epidemic with colleagues we are impressed with the pain element which characterizes a majority of the cases that have come under observation at the Hospital for Ruptured and Crippled. One recent writer in *Pediatrics*, Dr. Pisek, speaks of the involvement of the extensor spinæ group. The case of one of our patients now in the hospital will confirm this statement:

History.—A boy, aged 5, was admitted to the hospital October 7, 1907, with this history: Four weeks prior to this date fever developed, headache, anorexia, aches and pains in left upper extremity and the next day the shoulder group was paralyzed. He remained in bed for two weeks very ill, and the shoulder group and erector spinæ muscles were still paralyzed. Examination showed that he had a very unsteady gait, was unable to elevate the shoulders, and we were struck with his total inability to turn over in bed or to assume the sitting posture. The erector spinæ muscles, therefore, were involved as well as those of the shoulder group. At the date of this writing, November 7, he is able to sit up in bed easily, and there has been decided improvement in the shoulder group of muscles.

In studying the reports of former epidemics we fail to find anything quite as complete in a pathologic way as is presented in a paper of Harbitz and Scheel, to which reference has already been made. These observers base their conclusions on the study of 19 fatal cases, in every one of which an autopsy was made. The time intervening between the invasion and death was as follows: In 1 case, 2 days; in 1, 3 days; in 1, 4 days; in 1, 5 days; in 8, from 7 to 9 days, and in 1, 10 days.

There were four cases of acute poliomyelitis where death occurred during the stage of repair, namely, 1.5, 6.5, 6.5 and 22.5 months after the onset. The details of the autopsies are extremely interesting, and it is difficult to quote from this valuable paper without incorporating the major portion of it, but their conclusion is worthy of record here, and it is this:

It is our opinion that poliomyelitis is due to a specific virus, and, further, that we are not dealing with the remote effect on the central nervous system, but that the organism is present in the organism itself, in the meninges, in the cerebrospinal fluid and probably in the nervous substance, and that it is the direct cause of the extensive inflammation. As has been stated, many facts favor the assumption that the atrium of the infection is in the digestive tract and that the nervous system becomes infected either by the lymph stream, along vessels and nerve trunks (though no anatomic proof of this exists) or, what appears more likely to us, by way of the blood, which also appears to be probably the case in cerebrospinal meningitis.

Clinical Notes

IMPROVED CARBOLIC FUCHSIN STAIN FOR TUBERCLE BACILLUS.

R. O. LeBARON, B. Sc., M.D.
PORTSMOUTH, OHIO.

The staining solution is made by saturating methyl alcohol (97 per cent.) with fuchsin and adding 5 per cent. of carbolic acid. This fluid will stain the tubercle bacilli in sputum in four minutes without employing heat. As the stain is dissolved in methyl alcohol, preliminary fixation is really unnecessary, but I have found that, at least with some sputums, a smoother field is obtained by a light fixation in the flame. (The sputums were all incubated for from twelve to twenty-four hours.) The specimen is then covered with the stain, which is allowed to remain at least four, but not more that five, minutes, timed by the watch; washed thoroughly in water; decolorized (dilute nitric acid and 60 per cent. alcohol used separately), and counterstained as ordinarily. The counterstain should be rather light. The tubercle bacilli are stained deeply and the field is unusually clear.

V 49
1907

WILL RADIUM CURE CANCER? A CASE.

ALFRED C. HAVEN, M.D.
LAKE FOREST, ILL.

I hesitate to offer this case for publication lest I may be thought a disciple of Ananias, a hyperenthusiast or a retailer of fairy tales.

Possibly the case is not unique. Others have obtained good results with radium or its congener, the *x*-ray, but as far as my own observation extends, it has no parallel.

I am prepared to substantiate the facts which I now record. I also am fully aware that one case furnishes no broad basis for a generalisation.

History.—Mrs. X., aged 42, widow, mother of four children, came for examination January, 1905. February, 1899, a cystic growth of the right breast was removed. There was no recurrence and no microscopic examination.

Examination.—Inspection now revealed a soft growth, size of quarter of a dollar, on the posterior lip of the os uteri. Patient complained of backache, metrorrhagia and debility.

Operation.—Patient was anesthetised, growth curetted, and specimen sent to Columbus Medical Laboratory, Chicago. Report: Carcinoma.

Dr. E. C. Dudley, Chicago, was now called in consultation. He pronounced it a typical case of carcinoma and a favorable case for operation, as the disease seemed limited and early in its development.

Second Operation.—Feb. 18, 1905, Dr. Dudley performed a vaginal hysterectomy at Alice Home Hospital, Lake Forest. Patient made an uneventful recovery.

May 5 she returned complaining of dull heavy pain in back, enlarged inguinal glands and frequent hemorrhages. Examination revealed the characteristic cauliflower growth of recurrent carcinoma, in the scar tissue. Realizing that her condition was hopeless, that it was only a question of time, I determined to experiment with radium. Dr. William Allen Pusey, Chicago, secured for me a small tube of radium bromid. Dr. Pusey candidly offered no encouraging prognosis.

Radium Treatment.—May 15, 1905, I began systematic trial of the radium. The tube was introduced into the vagina every night, being retained by a tampon, and left adjacent to the granulations the entire night; it was removed and cleansed the following morning. The progress made the first six months was most discouraging, in fact, the disease extended, involving the vesicovaginal septum, where no scar tissue existed. Great pain of a constant boring character required large doses of morphin, often a grain and a half a day. The inguinal glands were enlarged two or three times their usual size. Frequent hemorrhages were common. Great weakness and loss of flesh and great mental depression also followed. Several times the patient threatened to discontinue the radium, believing it useless and that her end was near. I confess I shared the same belief.

The disease reached its culmination Dec. 2, 1905, when I was hastily summoned and found the patient almost pulseless, and thoroughly exsanguinated as the result of a terrific hemorrhage. A tampon was introduced and the patient was hurried to the hospital, where the granular tissue was thoroughly curetted away. Equal parts of iodin and carbolic acid were applied and an iodoform tampon was introduced. The patient was exhorted to continue the radium, although nothing seemed accomplished by it so far.

From this turning point progress was certainly noted, at first slow, but surely continuous, marked by less pain, less morphin, fewer hemorrhages. The inguinal glands markedly subsided in size. Her strength returned and the depression disappeared. Scar tissue encroached on the granulations daily, and by April 1, 1906, cancerous granulations had disappeared, nothing but healthy scar tissue remaining.

Condition in July, 1906.—She had no pain, uses no morphin, the lymphatic glands are normal. Patient has gained in weight and strength. No trace of the original disease is visible. The vagina has contracted so that the little finger is introduced with difficulty. To all appearances the last vestige of the cancer has disappeared.

[*Subsequent Condition, Noted September 12, 1907.*—This article was ready for publication September 12, 1906, but was withdrawn with the consent of the editor, that the case might be observed for a longer period. The patient suddenly developed a hard swelling in the rectovaginal septum, which was opened through the vagina and discharged a thick grumous, sanguineous substance, which was submitted to the Columbus Laboratory for analysis, but result was negative. This opening closed in a few days, still it recurred several times the next year, but was finally permanently healed, by the application of alcohol, and packing with gauze. Two years and nine months have now elapsed since the hysterectomy, and the woman is apparently strong and well.]

REMARKS.

I realize that there may yet be a return of the disease and the patient may die of carcinoma, but I believe that, if the radium destroyed the granulations once, it may be possible to prevent such recurrence by intermittent or continuous use of it for some months or perhaps years. The radium will certainly be continued indefinitely.

I believe there can not possibly be any doubt as to the character of the growth. The laboratory so pronounced it in January, 1905, and recently I asked Dr. Gehrmann of the Columbus Laboratory to examine the slides again. He makes the following supplementary report:

Referring to tissue from Mrs. X., we wish to make further report, as follows:

Our sections show this to be an alveolar carcinoma. It has originated in the squamous epithelium of the cervix. It does not show any glandular arrangement. The epithelial cells are young and active. The alveolar wall is usually slight. The epithelial crests are frequently in close proximity to young immature blood vessels. The tissue is a good deal inflamed. There is much leucocytic infiltration and much growth of embryonal tissue, especially blood vessels. The abundance of cells, the thinness of the alveolar walls, and the abundance of blood vessels make the type very malignant.

Also, the macroscopic appearances were those of cancer; the history is that of cancer; the recurrence after hysterectomy of characteristic cauliflower granulations in the scar tissue, with frequent hemorrhages; pain and lymphatic involvement—the picture is one familiar to any physician.

If the diagnosis is clear, then what effected the cure? She had a curettement of the granulations, she had antiseptic douches. These could effect no cure. She certainly is the picture of health to-day, and I am forced by the logic of the situation to give the credit to that mysterious substance, radium.

I don't know that I can claim any originality in its use, unless the persistence in its use was new. Six months gave no results, but later the result was brilliant. Perhaps the method of use was a little unusual, as the radium was left in contact with the granulations the entire night.

I shall not try to draw conclusions from a single case. But may this case not be rich in suggestiveness? Perhaps radium has been discarded before it has had a thorough and lengthy trial. The *x*-ray and radium cure cutaneous cancer and other skin diseases. The *x*-ray is regularly used by surgeons as a supplementary treatment after excision of cancer of the breast and other external parts. Similar use of radium in inaccessible parts is analogous and should give similar good results.

Radium may, therefore, have a field of usefulness where the *x*-ray is inefficient, because of inaccessibility,

as in cancer of uterus, tonsil or rectum—a valuable supplement to the surgeon's skill. I believe its use must be continued over a sufficient length of time before results are demonstrable.

Radium is expensive, but practically indestructible, provided its glass case is not broken or the valuable mineral stolen: two possible contingencies. I would like to see radium used systematically after all hysterectomies for cancer. I do not believe my case will prove a lone exception.

A CASE OF APLASTIC ANEMIA.

LEROY CRUMMER, M.D.
OMAHA.

The recent and carefully prepared report of a case of aplastic anemia by Lavenson[1] embraces a thorough review of the literature and renders a detailed consideration of this disease unnecessary, but the cases are still so rare that it is deemed of importance to report every case.

History.—Miss F. S., aged 18, was seen through the kindness of Dr. H. B. Jennings, of Council Bluffs, Iowa. She was one of a large family of girls and with no trace of hereditary impairment. She had always been well, save for some slight gastrointestinal symptoms so common in girls of this age. In April, 1907, she had an attack of generalized muscular pain, which under salicylate treatment immediately improved. No attention was directed toward the tonsils during this illness. A month later she again complained of pain in the limbs and body. These pains were neither constant nor severe. Up to this time, there was nothing striking about her appearance, but early in July she began to look pale and complained of great fatigue. She was put to bed July 4 and the following examination was made July 6.

Examination.—Patient was extremely pale, but the fat was well retained. There was no tinge of yellow in the pallor, but it was the pearly white of an ordinary secondary anemia. She was rather emotional and querulous, but made no definite complaints of pain or other symptoms. There were no manifestations of hemorrhage into the skin or mucous membranes. There was a slight generalized enlargement of the lymphatic glands on careful palpation. These enlargements were neither marked nor typical. The tongue was clean and there was no evidence of tonsillar infection past or present. The lungs and heart were normal. The pulse rate was from 90 to 100. The heart sounds were normal, though a general diffuse hemic murmur was audible over the precordium. Abdominal examination showed no palpable changes in the liver, no enlargement of the spleen, no ascites. There was no edema of the limbs. The urine was normal. The subsequent history of the case showed no marked departure from the above-described condition. The temperature ranged from 98.5 to 100 F. and save for an occasional hour of nausea with some vomiting no further symptoms developed. The blood examination showed: Red blood cells, 1,060,000 per c.mm.; white blood cells, 1,533 (Turck) per c.mm.; hemoglobin, 17 per cent. (F.M.); index, .88. The most striking thing about the microscopic examination of the blood was the absolutely normal appearance of the individual field in spite of the low blood count. There was little variation in the size and shape of the blood cells (no poikilocytosis); the staining qualities of the individual cell showed no variation (no polychromatosis). A very careful search showed neither nucleated blood cells nor punctate erythrocytes. The differential count of the white cells was extremely difficult on account of the small number present, but about 40 per cent. were lymphocytes.

The patient died July 25, just three weeks after going to bed. An autopsy could not be obtained.

From a study of the various cases Lavenson concludes that from a clinical standpoint "the essential features of aplastic anemia are: A rapidly fatal course; a marked reduction in the number of red blood corpuscles; a greater proportionate reduction in the amount of hemoglobin, resulting in a low color index; a leukopenia with a relative lymphocytosis; an absence of megaloblasts, and usually normoblasts."

The case here reported coincides with each and every one of these essentials required by Lavenson. Of particular interest in this case is the age of the patient, younger than any save one of the hitherto reported cases, and the fact that there were none of the hemorrhages or accessory symptoms noted in many of the previous cases. On this account the diagnosis depended essentially on the peculiar blood count and on this alone. However, I think we may conclude that with these essentials of the blood count so positive any other diagnosis would have been impossible.

1. Amer. Jour. Med. Sciences, January, 1907.

NEPHRITIS FOLLOWING EXTERNAL APPLICATIONS OF BALSAM OF PERU.

LAWRENCE H. HOFFMAN, M.D.
SAN FRANCISCO.

The frequency with which Peruvian balsam is employed both as a surgical dressing and in ointments for the local treatment of skin diseases without a thought regarding its possible toxicity leads me to report the following case:

History.—George S., aged 7, had always been a robust, healthy boy of normal development. Had measles several years ago, but had had no acute illness within the past year. In March, 1906, developed scabies, and when presented for treatment the eruption was scattered over the entire body. Sulphur ointment (10 per cent.) did not control the spread of the parasite and an ointment with 10 per cent. Peruvian balsam was employed twice daily. It was applied over the entire body-surface. Under this treatment the eruption disappeared in five weeks. In May of the same year I was called to see the child and found his abdomen distended with ascites, his face, arms, hands and feet edematous, pulse high tension and rapid, tongue coated and breath fetid.

Examination.—The urine examination disclosed high specific gravity, acid reaction, albumin in great quantities (the test tube contents almost solidifying on boiling and adding acetic acid) and the microscopic examination showed numerous blood casts and granular casts and erythrocytes present.

Diagnosis.—Acute nephritis.

Treatment.—Under a milk diet, hydragogue cathartics and sweat baths the albumin gradually diminished, as did the edema and ascites, and in July, 1906, complete recovery had taken place.

Nothing in the history of this case could be found to have caused the nephritis except the balsam of Peru used in the treatment of the skin affection, all other known causes having been excluded. A. Richartz[1] reported a similar case in which an inunction of 10 per cent. Peruvian balsam caused an acute nephritis. While not a very common sequence of such medication, it, therefore, is a possibility to be kept in mind in treating infants or those known to be suffering from renal lesions. I can find no mention of this untoward effect in the standard text-books that I have been able to consult, so I have deemed it advisable to report this case to add to the statistics as well as to call attention to a point apt to be unnoticed.

3014 Washington Street.

1. Münch. med. Wochschr., liii, No. 19.

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REVERSION OF MALIGNANT INTO BENIGN TUMORS.

One of the ways in which a malignant tumor may arise is through the acquirement of malignant characteristics by a previously benign growth. The formation of melanosarcoma from a pigmented mole, of an endothelioma from a nevus, of sarcoma from fibromyoma of the uterus, of sarcoma from chondroma, and of carcinoma from adenoma of the breast, are among the best-known examples of this transition from benignancy to malignancy.[1] Although examples such as the above are by no means uncommon, the reverse process, that is, reversion of a malignant tumor to a benign form, seems to be practically unknown in human pathology. In a previous number[2] the topic of the spontaneous healing of cancer was discussed, and in the reports gone over at that time the healing processes described were never of this type; such instances of spontaneous healing as have been observed consist in a gradual replacement of the tumor cells by fibrous tissue until there is left only a scar, with or without encapsulated tumor cells.

During the course of the studies on the transplantable carcinoma of mice that are being carried on at Ehrlich's laboratory, there have been observed examples of reversion of mouse carcinomas into what seem to be benign adenomatous tumors. Among the spontaneously occurring tumors that are observed in mice are found all the different structural varieties of epithelial neoplasms, and even single primary growths exhibit a great tendency to show many different histologic forms in the same growth, among these forms being frequently observed transitions from simple adenoma into carcinoma. When these tumors are transplanted into other mice, however, the resulting growths are much more uniform in structure, for, in the first place, simple acinous growths seldom are successfully transplanted, and secondly, the transplanted growths tend from generation to generation to approach the solid reticular type of carcinoma. In a number of cases, however, Apolant[3] has seen a tumor that had shown a constant carcinomatous structure for many generations suddenly exhibit a transformation into the histological structure of a benign adenoma, and in every one of these cases the affected animal was one that had been partially immunized against mouse carcinoma by one or another of the methods that are being used in the experimental study of these tumors. From these observations it would seem that the resistance of the organism determines the nature of a tumor, just as the same factor seems to determine the starting of the new growths. On the basis of his experience with experimental tumors, Ehrlich has accepted the view, which has long prevailed among clinicians, that the first impulse of tumor formation results from a constitutional weakness of the entire organism. It is easy to comprehend how, with a further progressive loss of inhibiting power, a tumor might pass from a benign type to a point where its cells grow without successful hindrance and produce a malignant tumor. Apolant's experiments indicate that by partial immunization the resistance of the organism may be again brought back to a point where it once more holds the cell growth within the orderly limits of adenoma formation, while with more complete immunization the tumor growth ceases entirely.

These experiments are certainly of great interest and show the continuous progress that is being made in the newer studies of cancer by experimental methods. We must not, however, anticipate the laboratory workers and speculate on therapeutic futurities; the therapeutic applications must come slowly and as the result of further systematic laboratory investigations, for the experimental study of carcinoma is still in its earliest infancy.

In order that exaggerated and ultra-optimistic views of the results so far obtained in this field may not arise, we may call attention to the fact that we are by no means justified in applying immediately all the results of these studies to the subject of human cancer. There seem to exist not unimportant differences between human cancers and the mouse cancers that have been chiefly used in experimental work; among these differences may be mentioned the frequent tendency to spontaneous healing of mouse cancers, the relatively slight tendency to general metastasis, the apparent frequency of epidemic occurrence and endemic development in groups of mice kept in certain cages, and also what seems to be a more marked tendency to hereditary influence than has been found in human cancer. Furthermore, the reversion to benign adenoma described above, and the ready transformation of mouse carcinoma into sarcoma, also observed by Apolant, are phenomena almost without parallel in human cancer growth. Nevertheless the similarity of mouse carcinoma to human carcinoma is, on the whole, sufficiently close to warrant every possible exertion being made with this most readily transplanted form of carcinoma, until more success is obtained with forms of carcinoma occurring in other mammals which may be more strictly analogous to human carcinoma.

1. A separate monograph on this phase of tumor biology has recently been published, entitled "The Essential Similarity of Innocent and Malignant Tumors," by Charles W. Cathcart.
2. THE JOURNAL A. M. A., July 20, 1907.
3. Münch. med. Wochschr., 1907, liv, 1720.

FOOTBALL MORTALITY AMONG BOYS.

We called attention early in the season to the fact that deaths and serious injuries were resulting from football, in spite of the claims made that the new rules would give comparative exemption from the dangers of the unreformed game of three years ago. The statistics for the completed season now in hand present a number of features interesting to physicians—and surgeons. They have been gathered by Arthur B. Reeve,[1] a football enthusiast, who for the last five years has given special attention to football injuries and deaths, and who is acknowledged to be an authority on the subject. His figures then may be quoted with perfect assurance that there is no exaggeration and that, indeed, if anything he presents the picture a little brighter than it is in reality.

In the season just closed, fourteen football players were killed and fifty-eight seriously injured. In 1905 twenty-two were killed and ninety-six injured. Last year, when the new rules had been brought into effect, there were but ten killed, though sixty-three were injured. Ten may seem a large number to sacrifice to a sport that lasts but a few weeks, but the ardent advocates of football pointed with pride to the fact that the mortality statistics of the game had been more than cut in two. It was confidently asserted that as the years went on and the new rules came more and more into vogue and the open game more played the number of fatalities and injuries would decrease further. To most people this sounded plausible enough, and we are not prepared to declare the new regulations a failure simply because of this year's increase of 40 per cent. in the number of deaths. For, all the fatalities except two were in high school or boys' teams, by whom the new rules are not so carefully followed, and over whom coaches and trainers do not generally exercise supervision. It is only fair, therefore, to withhold final judgment on the effect of the new rules until more facts are at hand as to their definite relationship to the games in which injuries and death resulted.

There need be no such hesitation, however, in deciding that football is no game for boys to play. Of the whole fourteen killed the ages averaged something under eighteen years; none was over twenty. All except two were in high school or boys' teams and those two were in smaller colleges and, further, the death of only one of the two was due directly to football. For a number of years there has not been a death or a serious permanent injury to a player on any of the large university teams. Shall we then conclude that the big teams represent the result of the working out of the law of the survival of the fittest and that the players of inferior physique have been killed off? If football were to be prohibited for students under eighteen and this weeding out process stopped then surely there would be more deaths among the older players! This seems a reasonable deduction even as our mortality records show increased death rate from diseases of old age because of the increased length of life due to the preservation of infant life. The result of such a line of thought is hostile to the game of football *in toto*, and emphasizes what a juggling with death is involved in playing it. For every "immune" toughened by years of training, how many fine and promising young men have fallen by the wayside or limped away through life—all to make the great American game of football.

We may not be able to stop the game, even if it were desirable to do so, but we can prevent some of its evil results. To this end, some of the accidents of the year furnish suggestion. One player who died of a ruptured intestine had within a few weeks undergone an operation for appendicitis and, of course, should not have been allowed to play. Another victim had recently recovered from typhoid fever, and the exertion of the game resulted in the rupture of a typhoid ulcer with fatal effects. But the chief causes of death are injury to the brain and spinal cord. Four of the victims died from head injury. One had his back broken in an old-style mass play. A student in a minor university "was pulled from the bottom of a pile of players with partial paralysis," from which he died a month later. An eighteen-year-old school boy had his neck broken. A high school student "was bent double under a pile of players" and never recovered consciousness. After these injuries to the central nervous system the most serious accidents occur from kicks and injuries to the abdomen. It is clear that persons of delicate build or of immature development should not be allowed to engage in football. If we must have this gladiatorial "sport," would it not be better to adopt gladiatorial methods and have the game played only by fully-developed men who had passed a severe physical examination before beginning the course of training?

1. What's the Matter with Football? The Independent, New York, Dec. 5, 1907.

A VERY REAL WORLD POWER.

A marked tendency of the present era is the domination of the tropics by the temperate zone; the white man finds it little hardship, indeed he is eager to take up the burden of managing the destinies of his less enlightened brethren. But it is becoming manifest that the policy of conferring the blessings of civilization on the dark-skinned races, and of benevolently assimilating the regions in which they live, can not be an enduring success until medical science has cleared the way and made these countries habitable for the white man. It is becoming realized that the enduring conquest of the tropics is not to be accomplished without the initiative aid of the scientific bacteriologist; it is in his hands that the essential power lies; when he has done his work the others may safely go ahead.

That this sentiment is just, one must conclude who notes, for instance, that a great difficulty which the Brit-

ish government has found with its Indian possessions lies in the fact that the European has been unable to make his habitation permanent in that infection-ridden country. But the labors of Haffkine, of Shiga, of Ross and of Manson are changing all that; and, if the native fatalism can be successfully coped with, England may reasonably cherish the prospect of a salubrious peninsula, altogether inhabitable by the white man. Devoted physicians, who seem to be the missionaries of the present day and generation, have shown how infectious diseases can be eliminated; though, of course, there must remain the torrid heat, which induces in the white man the "tropical wrath," the condition characterized by intemperance, lassitude, periods of spasmodic mania, and of hideously cruel acts.

In Africa it is but a question of time when Koch and other workers will have rid vast regions of such terrors as the sleeping sickness; they will soon have made the hitherto dark continent a safe and salubrious camping ground for the enterprising white man.

The American people are certainly conscious of their debt to Reed, Gorgas, Kean and others, but it is doubtful if the extent of this debt is fully realized. So vast in scope have been the beneficent achievements of these men that the adequate realization of them is indeed difficult. Our seaboard cities have no longer to fear epidemics of yellow fever from the tropics; their health authorities know now how to fight successfully the malarias, or the "mosquito fevers," as we have recently been bidden to term these diseases by the International Sanitary Congress at Mexico City. We greatly question if the Panama canal—a work so fraught with benefit to the world's commerce and to the wholesome interests of all humankind—could be built at all had not Gorgas to begin with made the Canal Zone as healthful and as clean as are most American cities—more so than a great many.

It is pertinent here to indicate a valuable little book by three authors, Major Ronald Ross, W. H. S. Jones and G. S. Ellett, which bears the title "Malaria, a Neglected Factor in the History of Greece and Rome." The fundamental idea entertained by these writers is that "the conqueror of Greece was not so much the Macedonian or the Roman as that great tyrant which now holds half the world—malaria." The decline of Greece, it is declared, was due to the sapping of the national strength by the insidious fever which was brought back by the armies returning from Asia. This thesis is cogently maintained by Jones, while Ellett discusses the effects of malaria on morals, but that, as Kipling would say, is "another story."

THE LEGISLATIVE CONFERENCE.

A summary of the proceedings of the annual conference on medical legislation of the American Medical Association will be found in this issue.[1]

One important action deserves special emphasis: the adoption of a resolution authorizing the chairman to appoint a special committee and to inaugurate a campaign for the purpose of calling a council of representatives of the various states to consider the advisability of uniform state legislation along a number of different lines and, so far as seems advisable to the council, of framing model bills for submission to the legislatures of the various states for adoption. This action is significant for two reasons, first, because it is the first time that the medical profession has taken the initiative for legislation on subjects other than medical; second, because for the first time the medical profession has pointed out the necessity of careful, exhaustive study of the entire problem of medical legislation, such study to be followed by the framing of a bill in which will be represented, not only the interests and the views of physicians, but also of members of the other learned professions and as well of the general public. It is not to the credit of the medical profession, which claims to be and is, so far as its own work is concerned, the most scientific of all the learned professions, that this question of medical legislation, vital as it is to the profession and to the public, has been for years in such a shifting, uncertain and unstable condition.

Medical sociology is as important a subject as disease, so far as the well being of the body politic is concerned. It is as well worth the earnest study of medical men as is human anatomy, pathology or physiology. There is no reason why a law which is beneficial to one state should not be equally beneficial to another, neither is there any reason why the public and the medical profession should be at the mercy of constantly shifting and changing provisions in medical legislation. It is significant of better things to come that the sentiment of the conference which has just adjourned was that a council of all the states should be called in which should be represented all of the varying interests involved, both lay and professional; that, in the interval which will elapse before this council can be convened, careful, impartial and exhaustive study should be made of the social and economic conditions underlying medical and health legislation; that a model law should be framed which would safeguard, fairly and impartially, the rights of all concerned and that the help of the best elements of society should then be secured in obtaining the passage of this law or a similar one in all the states, thus producing, through uniformity of legislation, that general harmony and reciprocity so greatly to be desired and which will be of so great value to the people as well as to physicians.

It is also significant that the opinion of the conference was that, pending such an investigation, all unnecessary patching and tinkering with present state laws should be discontinued in order to avoid wasting energy in making changes which may not be in line with progress. This may require some patience on the

1. THE JOURNAL A. M. A., Dec. 21, 1907, p. 2112.

part of members of the medical profession residing in states in which the law is plainly defective, but unless there is urgent necessity for a change it is better to wait until harmonious action can be secured rather than to increase further the present perplexity and confusion by enacting laws which the increased knowledge of a few years may show to be unwise.

THE PUBLIC REALIZATION OF THE NOSTRUM EVIL.

Generally speaking, the rôle given to medicine and the medical profession, in contemporary literature and the drama, is neither fairly representative of the former nor flattering to the latter. The weakness and failures of medicine are thrown into relief, the foibles and occasional incompetence of the physician are exaggerated and caricatured. The great services rendered by medicine and the medical profession to humanity are overlooked, and the magnitude and complexity of the problems, mental, moral and economic, with which physicians have to contend, are ignored or ridiculed or, even worse, depreciatingly misconstrued.

Under these circumstances it is gratifying to read in a popular magazine[1] a story that is commented on by a correspondent elsewhere in this issue of THE JOURNAL. The story, by Churchill Williams, is entitled "The Edge of Circumstance," and its purport is to depict the struggles and temptations that enable a proprietary medicine concern to enmesh in its toils a needy, though high-minded, young physician. "We have no reason," says the drug concern's affable and patronizing representative, "to fear the verdict of the regular physician; in point of fact, he is our ally. We state our formula and our claims to him frankly and fully. We welcome his most searching examination and analysis. He finds it as harmless in its constituents as it is potent in its possibilities"—with much more of the patter of the nostrum manufacturer's *spieler* that is so familiar to most of us. In a weak moment the physician consents to become one of the concern's consultants, only to find himself advertised in big letters in the local paper next morning as "Plymboro's Leading Physician," who "endorses Nervo-Sal."

We will not spoil the story by relating more of it. Our purpose in referring to it here is to call attention to the significance of its acceptance by lay publishers for publication in a magazine for popular reading. That could scarcely have occurred had not the publishers deemed it likely that the subject was possessed of a sufficiently deep and widespread interest for the reading public.

SCIENCE, QUACKERY AND FOLKLORE.

In a recent issue[2] we commented on the report of the Royal Commission on Nostrums for the Australian Commonwealth. The *Lancet*,[3] in commenting on the same report, takes occasion to point out the existence of a tradition of quack medicines comparable to the tradition that runs through the history of orthodox medicine. For instance, the great majority of cancer pastes contain phosphorus, zinc chlorid and arsenic for "killing the cancer and drawing it out by its roots," and the *Lancet* introduces several quotations from two letters by a correspondent signing himself "M. R. C. S." that appeared some eighty years ago in a satirical paper of the time, the *Town*, on "Cancer-curing Humbugs," in which the various cancer cures are shown up and their contents given. Among those thus exposed are Justamond's ointment, the celebrated French nostrum, the Pâte Arsénicale, Wright's Pearl Ointment, Davidson's ointment and Plunkett's ointment. All these nostrums contained arsenic, which indeed from their composition was probably almost the sole active ingredient. It is more than probable that nearly all such nostrum traditions are survivals of what was at one time orthodox medicine, as undoubtedly many of them are. For instance, Guy de Chauliac in the fourteenth century recommended the use of arsenic as a caustic for causing the death of tissues suspected of being cancerous. In an interesting article by Dr. C. B. Plowwright[4] on "Some Survivals of Medieval Medicine in East Anglia" we learn that an "oil of swallows" is still in common use as an external application in rheumatism among the poor. It had a place in the first London Pharmacopeia (1618) and was made by boiling young swallows in oil with certain herbs, wine and May butter. "Oil of worms," also another East Anglian survival, was used by Paré in the gunshot wounds of the French soldiers. A conserve of sloes still in use had a place in the first London Pharmacopeia and also in the Edinburgh Pharmacopeia of 1792. In northern France the natives still believe pearls to be a "sovran remedy" against incurable blindness, doubtless a tradition lingering from the times of Arab medicine, in which, with other precious stones, they were highly esteemed.

PATHOLOGY OR VICE?

The von Moltke-Harden libel suit, with its unsavory revelations telegraphed around the world, is not a pleasant reminder of some of the possible tendencies of even a high modern civilization. Naturally the medico-legal aspects of the case have been the subjects of discussion, and it would seem from the comments of German contemporaries that there is in Germany an active agitation for the repeal, or at least the modification, of the section of the penal code against certain unnatural sexual practices. The only justifiable ground for such agitation is, of course, that the tendency to such criminal acts is a pathologic and not properly a criminal one, but this tendency seems even to be condoned as being perfectly compatible with manly virtues and is claimed to have been an infirmity shared by many of the most illustrious of the earth. The *Berliner klinische Wochenschrift* calls these views "worldspread," an adjective we should have to accept only as applying to a possible, very limited, number of adherents in different parts of

1. Appleton's Magazine, December, 1907.
2. THE JOURNAL A. M. A., Sept. 28, 1907, 1118.
3. Nov. 16, 1907, 1402.
4. British Med. Jour., June 11, 1904.

the world. That there are pathologic cases of homosexuality and allied perversions need not be denied, any more than that there are pathologic cases of any other criminal tendency. To assume, however, that it is always, or even often, pathologic in the proper sense of the term, i. e., implying irresponsibility, would be about as correct as to say that all stealing is kleptomania—an evidence of a diseased condition. There is no animal impulse that is more likely to be perverted wilfully than the sexual, not only in man but also in the lower animals, and it is only by a sort of public moral sense that its perversions among the higher and undegenerate peoples are prevented from becoming more frequently manifested. As the *Berliner klinische Wochenschrift* says, there has been a superfluous amount of literature on the subject of late years. Fortunately, it appears more in Germany than here—we have not had the "high tide of half or wholly popular publications" of which it speaks. The subject is one that has certain medical bearings, but its consideration more often falls in the sphere of the criminologist than in that of the alienist or physician.

WHERE RECIPROCITY SHOULD NOT APPLY.

The Missouri State Board of Health took a commendable stand a year or so ago in refusing to license through reciprocity three candidates who, after repeatedly failing to pass the Missouri examination, passed in another state having reciprocal relations with Missouri and then reapplied for the Missouri license. A similar stand has been taken recently by the Ohio board, and we learn that a number of other boards, including those of Minnesota and Wisconsin, would take similar action if parallel cases came before them. Reciprocity, as usually provided for, is a discretionary and not a mandatory measure, and, therefore, a board can not be compelled under that provision to license an applicant who can not satisfy the board that he is properly qualified. Reciprocity is not intended as a means of lowering medical standards in any instance, nor is it intended to prevent an examining board from careful investigation of an applicant's moral character and other qualifications. It is intended only as a means whereby the written examination may be waived for such applicants who, in the judgment of examining boards, are in possession of satisfactory qualifications. Those boards are to be commended that administer reciprocity as a matter of justice and not as a means whereby the inefficient may evade fair medical standards.

THE CARE OF THE INSANE IN ILLINOIS.

The State Board of Charities of Illinois has adopted a new form of interrogatories to be filled out at the time of commitment of patients to the insane hospitals. It was prepared by a special committee, after study of like documents used in other states and with the council of specialists in mental and nervous diseases, including the superintendents of the Illinois state hospitals for the insane, and covers such points in the history of the patient and his disorder as can, it is supposed, be brought out at the inquisition from the friends and physicians of the patient committed. A noteworthy feature, differing from the circulars formerly in use, is the rather close inquiry made as to the financial status of the patient and his friends or relatives, with the view apparently of relieving to some extent the burden on the taxpayers of the state. For many years, subsequent to 1874, it has been the practice to make no charges for board or medical treatment in the state hospitals, no matter what might be the financial standing of the beneficiary, but recent legislation has, it appears, made it possible to adopt this new plan. The theory of the former custom was apparently that all citizens are entitled to like privileges and that there should be no class distinctions based on financial ability or disability, and there was a certain apparent justice in this view. On the other hand, there was no doubt a very considerable proportion of the inmates of the state hospitals whose estates or responsible friends could have easily borne, in full or in part, the charge of $3 or $4 per week which ought to cover the total per capita cost in the state institutions, and it is very possible that in some instances the state has been needlessly burdened by economical relatives with the care and cost of harmless senile cases, for example, that could have been cared for at home just as well, and far more satisfactorily to themselves. Of course there are many families in moderate circumstances and keeping up a certain social status, to whom even a nominal charge, especially after their providing member has been disabled or taken away, would be altogether beyond their ability to pay. Judiciously and humanely carried out, this new rule ought, however, to reduce perceptibly the public burden to the taxpayers in general while not working serious hardship to any.

INTESTINAL PUTREFACTION.

Our readers will recall the notoriety given in the public press to the announcement from Germany that Metchnikoff had found in sour milk the elixir of life and the cure for the decay of old age. Lest some may miss it, we can not let this issue go out without calling attention to the scholarly article by Dr. Herter, who discusses the practical basis for the benefit to be secured from sour milk in certain cases of intestinal fermentation. Here is a discussion full of suggestion for the general practitioner. Many times we call attention to such articles as these because the hasty reader may skip them and lose the suggestion that he needs for some of his baffling cases. That he who has to run may know where to stop and read is the purpose of the Digest on the front cover of THE JOURNAL each week.

Insanity.—White in the *Washington Medical Annals*, states that insanity is not a disease; it is rather a class of disorders which tend to arrange themselves with greater or less distinctness into groups of reaction types. Its study is, therefore, primarily a study of function, and must be conducted, not in the autopsy room, but in the psychologic laboratory. And this study of disordered function will only reach its full fruition, he asserts, when the results of the detailed analysis of abnormal reaction types are correlated with the results of a study of the mental "makeup" of the individual before he becomes insane—in other words, a psycho-analytical study of character.

Medical News

CALIFORNIA.

Doctors' Building.—A seven-story building is to be erected at Jackson and Thirteenth streets, Oakland, of concrete and brick construction, to cost $300,000. The six upper stories will be devoted exclusively to the use of physicians and dentists.

Communicable Diseases.—Dr. Walter L. Teaby, Monterey, city physician and inspector of the State Board of Health, has issued a warning to the public of Monterey against the contraction and development of smallpox. Three cases have been reported; quarantine has been instituted, an isolation hospital established and vaccination of school children is required.——Smallpox is said to exist at Oroville and at You Bet, near Nevada City; three cases of smallpox are reported.——Diphtheria has appeared at Johnsville and Quincy.

The Plague.—Up to December 9, 112 cases of bubonic plague had been reported, with 67 deaths. The San Francisco supervisors will probably adopt an ordinance, drafted by the Marine-Hospital Service officer in charge, requiring the proper sanitary construction of stables, basements of dwellings, etc. The city will also probably take up the collection and destruction of garbage. The winter rains have already set in and will prevent the propagation of fleas, so that a decrease in the number of cases of plague during the winter may be expected.

Society Meetings.—The seventeenth annual meeting of the California Northern District Medical Society was held in Marysville, November 12. The following officers were elected: Dr. John Jones, Nevada City, president; Drs. Alfred H. Tickell, Nevada City, Fred R. Fairchild, Woodland, and James H. Barr, Marysville, vice-presidents; Dr. Joseph W. James, Sacramento, secretary, and Dr. Oscar Stansbury, Chico, treasurer.——The Southern California Medical Association met at Riverside, December 4 and 5, and elected the following officers: President, Dr. Frank Garcelon, Pomona; vice-presidents, Drs. Clarence G. Toland, Pomona, and William W. Richardson, Los Angeles, and secretary-treasurer, Dr. Joseph M. King, Los Angeles. The next semi-annual meeting is to be held at Santa Ana.

Personal.—Dr. William G. Cochran, Los Angeles, has returned from Europe.——Dr. Ernest B. Hoag, Pasadena, has been appointed medical examiner of the public schools.——Dr. Arthur A. O'Neill has been appointed assistant in charge of the Isolation Hospital, San Francisco.——Dr. and Mrs. Adam M. Ritchie, Pacific Grove, have returned from Europe.——Dr. Luther M. Powers, health commissioner of Los Angeles, was the guest of honor at a banquet tendered by the medical profession of Los Angeles County, November 16, in appreciation of his work as health officer of the city.——Dr. and Mrs. Alfred G. R. Schlosser, Hollywood, have returned from Europe.——Dr. William F. McAllister, assistant medical director of the Veterans' Home Hospital has resigned.——Dr. Philip N. Russell has resigned as a member of the board of health of Fresno.——Dr. Walter L. Teaby, Monterey, has been appointed deputy state health officer.——Dr. Wood C. Baker has been appointed a member of the health commission of San Mateo.——Dr. Frank L. Doane, Red Bluff, has been appointed physician, and Dr. Albert B. Tarter, Tehama, health officer of Tehama County.——Dr. Joseph M. Flint, San Francisco, professor of surgery in the University of California, has been chosen professor of surgery at Yale Medical School, New Haven, Conn., vice Dr. William H. Carmalt, made emeritus professor of surgery.——The newspapers state that Dr. Dudley Tait, San Francisco, has been deposed from his position as associate secretary of the State Board of Medical Examiners.

COLORADO.

Disobey Health Laws.—A resident of Pueblo is said to have been fined $100, December 5, for failing to stay at home, and to keep his children at home, while they were ill with scarlet fever.

Physicians' Building Sold.—The Physicians' Building at Fourteenth and Stout Streets, Denver, erected by Dr. Charles Denison and devoted exclusively to the use of physicians, was sold December 4 for $135,000.

October Deaths.—During October 875 deaths were reported in the state, equivalent to an annual death rate per 1,000 of 16.23. Of the deaths 86 were due to typhoid fever; 14 to scarlet fever, and 9 to diphtheria.

Communicable Diseases.—During October there were reported to the State Board of Health 725 cases of typhoid fever; 286 cases of scarlet fever; 84 of diphtheria, and 13 of smallpox, an increase of 93 cases of scarlet fever, and 60 cases of typhoid fever, and 4 cases of smallpox, as compared with the previous month.——There are reported to be 7 cases of scarlet fever in South Canon.——Two cases of scarlet fever are reported from Leadville.——Grand Junction is reported to have 6 cases of scarlet fever and 2 of smallpox.——Dr. P. Oliver Hanford, health commissioner of Colorado Springs, has prepared a statement declaring erroneous the report of an epidemic of typhoid fever in Colorado Springs; he states since August there have been but 20 cases of the disease in the city, outside of institutional cases.

GEORGIA.

Vaccination Opponent Fined.—Dr. Lucy Laney, Augusta, was brought before the Augusta State Board of Health on the charge of preventing the work of vaccination and threatening violence, and was fined $25 on one count, but the fine was afterward reduced to $5.

Personal.—Dr. F. P. Calhoun has been elected a member of the staff of Grady Hospital, Atlanta, to fill the vacancy left by the resignation of his father, Dr. Abner Calhoun.——Dr. W. B. Spain, house physician at Macon Hospital, has resigned on account of ill health.

Society Meets.—The second annual meeting of the Third District Medical Association was held at Fort Valley, November 20. Dr. Thomas J. McArthur, Cordele, was elected president, and Dr. Rupert H. Stovall, Vienna, secretary. The next meeting will be held in Cordele in June, 1908.——At the annual meeting of the Sixth District Medical Association held in Macon, November 20, Dr. Robert B. Barron, Macon, was elected president; Dr. George Alexander, Flovilla, vice-president, and Dr. Eugene B. Elder, Macon, secretary-treasurer (re-elected).——At the annual meeting of the Macon Medical Society held December 3, the following officers were elected: Dr. Robert B. Barron, president; Dr. Mary E. McKay, vice-president; Dr. Herbert Respress, secretary-treasurer; Dr. William J. Little, delegate to the state society, and Drs. Olin H. Weaver, Henry P. Derry and Howard J. Williams, censors.

ILLINOIS.

Medical Library Incorporated.—The Peoria Medical Library Association has been incorporated by Drs. Edgar E. Gelder, J. F. Duane and Elliott C. Du Mars.

Communicable Diseases.—There is an epidemic of chickenpox in and around Atlanta.——Cerebrospinal meningitis is reported to be epidemic in and around Clifton, where 8 deaths have recently been reported.

Personal.—Dr. Henry B. Carriel, superintendent of the Illinois Central Hospital for the Insane, Jacksonville, was operated on for appendicitis, December 3.——Dr. William D. Humphrey, Virginia, has been appointed physician of Virginia, Princeton and Monroe precincts.——Dr. August H. Arp, Moline, who fractured his leg three weeks ago, is reported to be progressing favorably toward recovery.

Chicago.

New Hospital.—The People's Hospital is to have a new building at 365 Twenty-second Street, to be three stories in height, 42x100 feet, and to cost $35,000.

New Honors to Senn.—Dr. Nicholas Senn has received from the Japanese Society of the Red Cross, the Order of Merit of that organization, by the special sanction of the emperor. Dr. Senn has been elected an honorary member of the Royal Medical Society of Buda-Pesth.

Internes' Examination.—A special examination for internes for the Chicago Lying-in Hospital will be held December 26, at 302 Maxwell Street. Application should be made before that time to Dr. Joseph B. De Lee, chief of the medical staff. The service will begin Jan. 1, 1908.

Deaths of the Week.—During the week ended December 14 there were 594 deaths reported, 4 fewer than for the corresponding week of 1906, the annual death rate per 1,000 being 14.70. Pneumonia caused 101 deaths; consumption, 59; heart diseases, 57; nephritis, 50; violence (including suicide), 42, and cancer, 36, while of the communicable diseases diphtheria caused 20 deaths; scarlet fever, 9; influenza, 3; and measles and whooping cough, each 2.

Communicable Diseases.—During the week ended December 14, 126 cases of diphtheria; 75 of scarlet fever; 50 of measles; 24 of typhoid fever; 24 of tuberculosis, and 20 of whooping cough were reported to the health department. The cases of diphtheria, measles, whooping cough and typhoid fever have increased, but scarlet fever has decreased 20 cases, as compared with the previous week.——During the week two smallpox patients were sent to the Isolation Hospital.

Unlicensed Practitioners Fined.—James Lindgren, physical director and fencing master for the New Illinois Athletic Club,

charged with practicing medicine, without a state license, is reported to have been found guilty, December 12, and fined $100 and costs.——Before the same court, Mrs. Johanna White, who conducts a so-called maternity hospital on the South Side, is said to have pleaded guilty to practicing medicine without a state license, and to have been fined $200 and costs.

INDIANA.

State Gets Gold Medal.—Dr. John N. Hurty, secretary of the State Board of Health, has received notice that a gold medal has been awarded to the tuberculosis exhibit made by Indiana at the Jamestown Exposition.

Communicable Diseases.—Measles is reported to be epidemic at Oswego, and has caused the closure of the public schools.——Smallpox is reported from Elwood and Point Isabel and the schools of the latter place have been closed.——Smallpox in mild form is said to prevail in Lake View school district, Clearspring Township.——Several cases of smallpox are reported near Clay City.——Two cases of smallpox were discovered in Goshen, December 9.——A number of scarlet fever cases are said to exist in the Breaks school district, near Crawfordsville.——Several cases of scarlet fever are reported from Keystone.——Schools at Williamsburg and Billtown have been closed on account of the prevalence of diphtheria.

The Fleenor Case.—The license of Dr. Joseph N. Fleenor, Bloomington, was revoked by the State Board of Medical Examiners, October 23. The evidence disclosed that Dr. Fleenor had been writing prescriptions for all who applied, without referring to the use for which the liquor was put, thereby prostituting his legal rights as a physician and debauching a community that had recently closed all its saloons by authorized process of law. The law holds that the indiscriminate writing of prescriptions for intoxicating liquors for other than medicinal purposes is a gross violation of the law and, therefore, grossly immoral. The medical practice act of Indiana specifically states that the board may revoke licenses for gross immorality.

Personal.—Dr. James Laughead, Terre Haute, has been reappointed physician to Vigo County Insane Hospital.——Dr. Louis Severin, Bluffton, has been reappointed health officer of Wells County.——Dr. Harry A. Williamson, Marion, has been appointed physician of the Orphans' Home, and Dr. William Bowman, physician to Grant County Infirmary.——Dr. Frank Chitwood, Connersville, has been appointed physician of the Fayette County board of health, and Dr. Lurton D. Dillman, physician at the jail and county infirmary.——Dr. Charles W. Fry, Huntington, has been appointed secretary of the Huntington County board of health.——Dr. George H. Grant, Richmond, has been appointed health officer of Wayne County, vice Dr. Charles Marvel, resigned, and Dr. John M. Fouts, Centerville, has been reappointed physician of the county infirmary.

IOWA.

In the Hands of the Law.—A jury in Sioux City, on November 23, is said to have found George B. Wood, an advertising specialist, guilty of malpractice, and to have assessed damages of $650 against him.——Dr. Homer J. C. Reed, Diagonal, against whom two indictments were found for illegal sale of liquors, is said to have pleaded guilty to both indictments, and also to a violation of a permanent injunction, and to have been fined $1,500.——In the case of Charles Ray Parker, Ottumwa, indicted for practicing medicine without a license, the jury is said to have returned a verdict of guilty, December 6.

Personal.—Dr. Thomas S. Wanda, Germania, has gone to Iowa City for an operation on the stomach.——Dr. E. Luther Stevens, Des Moines, has recovered from his recent attack of appendicitis.——Dr. and Mrs. John D. Cantwell, Davenport, have gone to Ormond Beach, Fla.——Dr. William A. Stoecks has been reappointed city physician of Davenport.——Dr. Louis Jaggard, Marshalltown, sails for Africa as a medical missionary this month.——Dr. Edith Gould-Fosnes, for 26 years a practitioner of Des Moines, has moved to St. Paul.——Dr. and Mrs. Loren B. Doxey, Washburn, were seriously injured in a runaway accident, December 10.

Communicable Diseases.—Twelve cases of smallpox have been reported among the student body of the Iowa State College, Ames.——The schools and places of entertainment of Paullina have been ordered closed on account of the prevalence of smallpox.——Smallpox in mild type is reported to be prevalent at Blairstown, where 14 cases are reported.——Four cases of smallpox are reported from Iowa City.——Diphtheria is reported to be prevalent in Council Bluffs.——On account of the prevalence of diphtheria in Manning, the public schools have been ordered closed.——The public schools at Minburn have been closed on account of the prevalence of diphtheria.

KENTUCKY.

Buys Tuberculosis Sanatorium Site.—The board of tuberculosis commissioners of Louisville, on December 4 purchased a residence and 127 acres of land at Pleasure Ridge Park, on which is to be erected a municipal tuberculosis sanatorium.

Louisville Appointments.—The following appointments have been made by the mayor of Louisville: Dr. Jouett Menefee, superintendent of City Hospital; Dr. Thomas H. Baker, health officer; Dr. Lewis Ryans, assistant health officer; Dr. Gavin Fulton, western city physician; Dr. Heman Humphrey, eastern city physician; and Drs. R. T. Anderson, Thomas K. Van Zandt, Percy R. Peters, Clarence H. Harris, Charles E. Fitz and Arthur M. Barnett, sanitary inspectors.

Society Meets.—At the annual meeting of Carlisle County Medical Society, December 3, Dr. William E. Gohlson, Kirbyton, was elected president; Dr. George A. Thomas, Bardwell, vice-president; Dr. Hugh T. Crouch, Bardwell, secretary; Dr. William L. Mosby, Bardwell, treasurer, and Dr. Robert T. Hocker, Arlington, delegate to the state medical society.——At the annual meeting of the Harrison County Medical Society, held in Cynthiana, December 2, Dr. John M. Rees was elected president; Dr. William B. Moore, vice-president; Dr. Marshall McDowell, secretary; Dr. Bailey B. Petty, treasurer, and Dr. Lamme S. Givens, delegate to the state medical society, all of Cynthiana.——At the annual meeting of the Louisville Clinical Society, held November 26, the following officers were elected: Dr. Argus D. Willmoth, president; Dr. William Cheatham, vice-president, and Dr. Joseph Wharton, secretary.

MARYLAND.

Diphtheria at Naval Academy.—It is reported that there are 15 cases of diphtheria among the marines stationed at the United States Naval Academy, Annapolis.

Personal.—Dr. J. McKendrie Kemp, La Plata, has purchased the estate of 1,000 acres, which formerly belonged to Governor Stone.——Dr. George Wells has been elected chief of the medical staff, and Dr. William S. Welch, city health officer and secretary of the Emergency Hospital, Annapolis.

John Archer Portrait.—The John Archer portrait was hung in the State House at Annapolis, December 7. Dr. Charles O'Donovan, president of the Medical and Chirurgical Faculty of Maryland, presided, and the presentation was made in the name of the society by Mr. William P. Constable of the Baltimore bar, a descendant of Dr. Archer. The portrait was accepted for the state by Governor Warfield. Dr. Archer was the first medical graduate in America and his diploma from the University of Pennsylvania is owned by the society. He was a member of Congress, an officer in the Continental Army, and educated about 50 students at his home, "Medical Hall," in Harford County. He assisted in founding the Medical and Chirurgical Faculty of Maryland in the very hall in the State House where his picture will hang.

Baltimore.

Society Elections.—The Baltimore City Medical Society has elected the following officers: President, Dr. Wilmer Brinton; vice-president, Dr. Harvey W. Cushing; secretary, Dr. William E. Magruder; treasurer, Dr. William S. Gardner, and delegates to the Medical and Chirurgical Faculty of Maryland: Drs. Herbert Harlan, Joseph W. Holland, G. Milton Linthicum, Samuel T. Earle, Harvey G. Beck, William S. Thayer, Ridgeley B. Warfield, James J. Carroll, William Green and Louis P. Hamburger.

Personal.—Dr. Francis M. Chisholm has been elected associate professor of ophthalmology in the University of Maryland. He has severed his connection with the medical staff of the Presbyterian Eye, Ear and Throat Charity Hospital.——Dr. Ella X. Quinn sailed for St. Augustine, December 9.——Dr. D. B. Casler has been appointed resident gynecologist at Johns Hopkins Hospital, vice Dr. H. T. Hutchins, resigned, and Drs. E. H. Richardson and E. K. Cullen have been appointed first and second assistants, respectively.

Tuberculosis Notes.—The subscription for Eudowood Hospital for Consumptives now amounts to $3,610 per year for five years, or a little more than 12 per cent. of the amount required.——Mr. Henry Phipps, Pittsburg, who gave $20,000 two years ago to the Tuberculosis Dispensary of Johns Hopkins Hospital, has made an additional donation of $6,000, making his total gift amount to $29,500. Dr. William L. Moss, who is now abroad, has been put in charge of the laboratory of the dispensary, and Dr. Samuel Wolman has been appointed special research worker.

MASSACHUSETTS.

Communicable Diseases.—Two cases of smallpox are reported from Fall River.——Boston reports an epidemic of influenza.——An epidemic of diphtheria has broken out in the Tewkesbury State Hospital, where 28 cases have appeared among the nurses.——It is reported that 200 students at Wellesley College are ill with influenza.

Personal.—Dr. John O'Shea, house physician at the Boston City Hospital, and Dr. Edward L. Brown, assistant resident physician of the Relief Hospital, who were recently operated on, are convalescing.——Dr. Frank H. Parker, Malden, assumed his duties as superintendent of the Leper Hospital, Penikese Island, December 7.——Dr. Joseph O. Beauchamp has been elected mayor of Chicopee Falls.

Physicians' Club Organized.—The New England Physicians' Club has been organized and a building on Boylston Street has been leased as a clubhouse. The following are the officers of the club, membership in which is limited to physicians and dentists: Dr. Patrick J. Kingsley, Dorchester, president; Dr. William R. Brown, secretary, and Drs. F. M. Delabarre, G. Grant Birchard, G. McElhinney, Lee R. Pittinger and C. W. Staples, directors.

Illegal Practitioners.—On evidence secured by the Lynn Medical fraternity, the following individuals have been brought into court: August 5, Alfred J. Badger, "magnetic healer," defaulted; August 13, Edward E. Hosmer, "osteopath," convicted of illegal practice of medicine and fined $100; September 20, Samuel F. Sanborn, "herbist," convicted of a similar offense and fined $100, appeal taken; September 21, John W. R. Laxton, "botanic healer," convicted of a similar offense and fined $100, appeal taken; September 28, Herbert F. Clough, "electrotherapeutist," convicted of a similar offense and fined $100, appeal taken.

MICHIGAN.

Hospital Notes.—Ground has been broken for the new St. Mary's Hospital, Grand Rapids.——A new hospital has been opened at Boyne City. The following are the officers in charge: Dr. Will H. Marshall, president; Dr. Herman E. Boice, vice-president, and Dr. William E. Tew, secretary-treasurer.

October Mortality.—During October, 2,778 deaths were reported in the state, equivalent to an annual mortality of 12.6 per 1,000. Of the deaths 216 were due to violence; 186 to tuberculosis; 132 each to enteritis and cancer; 123 to pneumonia; 68 to typhoid fever; 37 to meningitis; 33 to diphtheria; 10 each to scarlet fever and whooping cough; 7 to influenza, and one death to measles.

Communicable Diseases.—Two patients with smallpox are under treatment at Lansing.——Thirty cases of smallpox have been reported at Manistee up to November 29.——Diphtheria is reported prevalent at Portland.——Typhoid of mild type is reported at Delton.——There are said to be 25 cases of smallpox of mild type at Springport.——Twenty-five cases of smallpox are reported from Keeler Center.——About a dozen cases of scarlet fever are reported from Bay City.

Personal.—Dr. Julius F. Henkel, Detroit, chief surgeon of the National Guard of Michigan, who has been seriously ill at Harper Hospital with paralysis, is reported to be much improved.——Dr. Thomas M. Koon, Grand Rapids, sailed for Europe December 4.——Dr. William S. Grimes, Detroit, has been appointed county physician of Wayne County, vice Dr. Edwin B. Forbes.——Dr. William J. Stapleton, Jr., has been appointed a county physician for Fort Wayne County.——Dr. Andrew L. Swinton, Ontonagon, has been appointed physician of Ontonagon County, vice Dr. F. W. McHugh.

Society News.—At the annual meeting of the Tri-County Society held at Cadillac, November 8, the following officers were elected: Dr. J. Mears Waddell, Cadillac, president; Dr. Nelson Abbott, vice-president, and Dr. Wallace J. Smith, Cadillac, secretary-treasurer.——The Physicians' Club at Lansing was organized November 12 with the following officers: Dr. Samuel Osborn, president; Dr. Chauncey L. Barber, vice-president, and Dr. Clara M. Davis, secretary-treasurer.——A charter of Alpha Omega Alpha, honorary fraternity, was granted the University of Michigan. This organization is a purely honor society, and membership is based on scholarship and character. The charter members of the association are: Professors G. Carl Huber and A. S. Warthin, Drs. E. P. Billings and R. E. Walker, and Messrs. J. E. Van Zwaluwenburg, Mark Marshall, Clarence Snow, A. F. Eastman and C. F. Karshner.——At a joint meeting of the medical societies of Jackson, Hillsdale and Ingham counties at Jackson, December 5, the Second Councilor District Medical Society was organized with the following officers: Dr. Nathan H. Williams, Jackson, president, and Dr. Samuel Osborn, Lansing, secretary-treasurer.——At the annual meeting of the Jackson County Medical Society, December 5, Dr. Frederick Rogers, Jackson, was elected president; Dr. George H. Townsend, Tompkinsville, vice-president; Dr. R. Grace Hendrick, Jackson, secretary, and Dr. Arthur J. Roberts, Jackson, treasurer.——At the annual meeting of the Muskegon-Oceana counties medical societies, held in Muskegon, Dr. John F. Denslow, Muskegon, was elected president; Dr. Leslie W. Keyes, Whitehall, vice-president; Dr. Vernon A. Chapman, Muskegon, secretary; Dr. Jacob Oosting, Muskegon, treasurer; Dr. George J. Hartman, Muskegon, delegate to the state society, and Dr. Anson A. Smith, Muskegon, alternate.

MISSOURI.

Abandons Health Camp.—The health camp established by Mr. N. O. Nelson, St. Louis, at Indo, Cal., has been abandoned because the conditions existing there were found unsatisfactory.

Licenses Revoked.—At the meeting of the State Board of Health and of Medical Examiners held in St. Louis, December 2, the licenses of three physicians and of one midwife were revoked.

Honor to Dr. Allen.—At a recent meeting, held at University Medical College, Kansas City, a number of present and past students of Dr. John M. Allen, Liberty, signed a written appeal, urging him to have his lectures on "Diseases of the Abdominal Cavity" issued in book form.

Society Meets.—The Rolla District Medical Society at its meeting held November 8 in Rolla, elected the following officers: Dr. C. A. Herzog, Cuba, president; Dr. E. L. Hume, Bourbon, vice-president, and Dr. William H. Bruner, St. James, secretary. The next meeting will be held in Cuba.

Hospital Notes.—During the fiscal year just closed, 914 patients were received at the Ensworth Hospital, St. Joseph, 736 of whom came for surgical treatment. The number of deaths during the year was 47, or less than 4 per cent. of those under treatment.——The cornerstone of the new Burge Deaconess Hospital, Springfield, was laid with Masonic ceremony, November 27. The building will cost $30,000, and is expected to be completed by March 15.——The Women's and Children's Hospital, Kansas City, has changed its name to Wesley Hospital.

Society Elections.—At the annual meeting of the Jackson County Medical Society, held in Kansas City, December 10, the following officers were elected: Dr. Charles B. Hardin, president; Dr. Franklin E. Murphy, vice-president; Dr. Edward L. Stewart, secretary (re-elected); Dr. Louis W. Luscher, treasurer (re-elected), and Drs. Jabez N. Jackson, C. Lester Hall and Orville H. Dove, delegates to the state association, all of Kansas City.——At the annual meeting of the St. Joseph-Buchanan County Medical Society, held December 11, the following officers were elected: Dr. Harrison S. Forgrave, president; Drs. Arthur B. Glothlan and Arthur R. Timmerman, vice-presidents; Dr. Charles Wood Fassett, secretary; Dr. Joseph J. Baneback, treasurer; Dr. John H. McCoy, censor; Dr. Luther A. Todd, delegate to the state association, and Drs. Clarence A. Good and William J. McGill, alternates, all of St. Joseph.

MINNESOTA.

Fire at Hospital.—Damage amounting to about $2,000 was caused by a fire at Stillwater City Hospital, November 17. None of the inmates was injured.

Sanatorium Opened.—The State Sanatorium for Tuberculosis at Walker is now open to receive patients. A uniform charge of $7 per week is made, and county commissioners are authorized to pay this charge in cases of indigent patients.

Verdict for Physician.—In the St. Paul District Court, November 22, a verdict for the defendant was rendered in the case of alleged malpractice against Dr. Fred H. Odenhahl, the judge holding that the plaintiff had not made out a case for the jury.

Communicable Diseases.—Diphtheria is reported to be very prevalent in Duluth. On account of the prevalence of diphtheria in Turtle River, the public school has been closed.——Albert Lea reports 10 cases of scarlet fever.——Several cases of smallpox occurred at Nicollet. In one family at Mankato Township there is said to be 11 cases of smallpox.

Minnesota Valley Association Meeting.—At the twenty-eighth annual meeting of this association, held in Mankato, December 3, the following officers were elected: President, Dr. Franklin A. Dodge, Le Sueur; vice-presidents, Drs. Gustav H. Luedtke, Fairmount, and A. Franklin Strickler, Sleepy Eye; secretary, Dr. Adolph G. Liedloff, Mankato, and treasurer, Dr. George F. Merritt, St. Peter.

Personal.—At a banquet tendered Dr. Zina G. Harrington, Mankato, December 2, by his colleagues in honor of the completion of his semi-centenary in medicine, a silver loving cup was presented to Dr. Harrington.——Dr. Hiram E. Cleveland, Osakis, has moved to Burlington, Wash.——Dr. J. R. Nannestad has been appointed chairman of the board of health, Albert Lea, vice Dr. Oscar A. Burton, resigned.——Dr. Emil C. Robitshek has resigned as ambulance surgeon of Minneapolis. ——Dr. Robert E. Farr, Minneapolis, was seriously injured on November 28 by a collison between an automobile and his buggy.——Dr. George R. Patton, Lake City, has retired after practicing 58 years.

NEW YORK.

Sanatorium Needs Money.—The Stony Wold Sanatorium at Lake Kushaqua, in the Adirondacks, is seriously hampered in its work by lack of funds. The increased cost of foodstuffs has had much to do with the shortage. There are at present 91 patients under treatment. The number of applicants for admission has been greater than ever before.

New York City.

Dr. Shrady's Death.—At a meeting of the medical board of Willard Parker and Riverside hospitals, held December 10, resolutions were adopted testifying to the personal regret of the board at the death of Dr. George F. Shrady, consulting physician of the hospitals of the department of health.——Dr. Shrady left an estate valued at $100,000, and personal property valued at $50,000.

Presbyterian Hospital Anniversary.—The thirty-ninth anniversary of the Presbyterian Hospital has just been celebrated. The annual report showed that in the past year an average of 525 persons was treated daily, an increase of 10 per cent. over the previous year. The pathologic department has been reorganized and is now under the direction of Dr. Eugene L. Opie of the Rockefeller Institute for Medical Research. The capacity of the children's ward has been almost doubled.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended December 7, 422 cases of tuberculosis, with 180 deaths; 472 cases of measles, with 19 deaths; 372 cases of scarlet fever, with 19 deaths; 326 cases of diphtheria, with 33 deaths; 71 cases of typhoid fever, with 18 deaths; 15 cases of cerebrospinal meningitis, with 5 deaths; 8 cases of whooping cough, with one death; 167 cases of varicella, and 2 cases of smallpox, a total of 1,855 cases and 275 deaths.

The Cocain Crusade.—During the past week there have been three arrests for selling cocain other than by a physician's prescription. The complaints in these cases came from the College of Physicians and Surgeons. In one case the offender was held on the charge of forgery for using prescription blanks without authority. These blanks were the property of a physician who denied all knowledge of the use made of them. It was learned that in a certain saloon prescription blanks could be obtained by those known to the saloon-keeper. The druggists complained to Dr. Darlington that the new law which made the sale of cocain without a prescription a felony, made the druggist liable when selling "patent medicines" with whose composition they were not familiar. The corporation counsel was instructed to prosecute the cases if indictments are returned.

The Health of New York City.—The report of the New York State Board of Health shows that New York City has a lower death rate than Auburn, Elmira, Yonkers, Utica, Poughkeepsie, Lockport and other cities which pride themselves on the healthfulness of their surroundings. Forty years ago the death rate was 35 per 1,000, while now it is a little more than half as much. Out of the 74,000 persons who die annually in New York, about 6,000 die from Bright's disease and about the same number of deaths is caused by heart disease. This makes about one-sixth of the number of deaths from causes which the health department can not control. In proportion to the population there is more scarlet fever in nearly all the smaller cities than there is in New York City. The same is true of diphtheria. In addition to the work of the health department in stamping out contagious diseases, this reduced death rate is considered to be due to milk and food inspection, care of the water supply and examination of school children. The number of suicides has greatly decreased and this is accounted for by the ruling that no phenol shall be sold except on the prescription of a physician when in a solution stronger than 5 per cent. In 1904 there was a total of 853 suicides, and one-third of these were by carbolic acid. So far this year the number of suicides has fallen to 565; not one was due to carbolic acid.

Neurologic Hospital.—At the suggestion of the New York City neurologists Hon. Robert W. Hebbard, administrator of public charities, has established the first neurologic hospital in America. The details of hospital organization have just been completed and a medical board formed. The new hospital is to be known as the Hospital for Nervous Diseases of New York City. It is located on Blackwell's Island in detached pavilion wards, near the City Home. The present capacity of the hospital is 250 beds. Buildings for the further accommodation of 100 patients are in process of erection. The medical staff will be divided into ten services. Each service will consist of a senior attending physician and two assistants. The services are to be continuous and permanent. The general hospitals of the city already possess more than a thousand neurologic patients awaiting admission to the service. The hospital will be provided with thoroughly equipped laboratories for diagnostic and therapeutic research. Ample facilities for giving special lectures and demonstrations in neurologic science will be provided. The medical board is composed of the following: Drs. Francis A. Scratchley, Pearce Bailey, Smith E. Jelliffe, Joseph Fraenkel, William B. Pritchard, J. Ramsay Hunt, Graeme Hammond, William Leszynsky, L. Pierce Clark (president), and Edward L. Hunt (secretary). The consultants are: Drs. Charles L. Dana, Edward D. Fisher, George W. Jacoby, Bernard Sachs, Joseph Collins, Frederick Peterson and M. Allen Starr.

NORTH CAROLINA.

Personal.—Dr. S. W. Tucker, Greensboro, has removed to Durham, and Dr. A. R. Tucker, Durham, to Greensboro.——Dr. A. W. Shaw of Chapel Hill has been successfully operated on in Raleigh for appendicitis.——Dr. Oscar G. B. McMullan, Elizabeth City, sustained severe injuries by the accidental overturning of his buggy, December 7.

October Deaths.—During October there were 308 deaths reported to the State Board, equivalent to an annual death rate of 16.6 per 1,000. Chief among the death causes noted were: diarrheal diseases, 35; heart diseases, 31; tuberculosis, 29; typhoid fever, 25, and brain diseases, 18. During October measles was reported in 13 counties; whooping cough in 17; scarlet fever in 27; diphtheria in 46; typhoid fever in 63; malarial fever in 17; influenza in 5; pneumonia in 38; mumps in 3; cerebrospinal meningitis in 5, and smallpox in 10.

Medical Society Elections.—At the annual meeting of the Cabarrus County Medical Society the following officers were elected: President, Dr. D. Greenlee Caldwell, Concord; vice-president, Dr. James C. Black, Harrisburg; secretary-treasurer, Dr. J. Edward Smoot, Concord, and delegate to the state society, Dr. William D. Pemberton, Concord.——The Guilford County Medical Society, at its annual meeting, held in Greensboro, December 6, elected the following officers: President, Dr. John R. Williams; vice-president, Dr. William P. Beall; secretary-treasurer and delegate to the state society, Dr. Edmund Harrison, and censor, Dr. William J. Richardson, all of Greensboro.

OHIO.

Communicable Diseases.—In Laura five well-defined cases of smallpox are reported, two at West Milton and six or seven near that place.——Smallpox has appeared in Mansfield.——Typhoid fever is reported to be prevalent at Birmingham.

Hospital Notes.—The annual report of the Cleveland State Hospital shows that at the end of the fiscal year, 1,310 patients were under treatment at the hospital. During the year, 1,668 patients were treated at a per capita cost of $164.——The Elyria Memorial Hospital Association has already raised $70,000 of the $100,000 necessary for the building of the hospital. The city council has passed a resolution appropriating $5,000 a year for five years for the equipment and maintenance of the institution.——The Fayette County Hospital Association has been organized to secure a hospital for Washington Court House. Dr. Rinaldo M. Hughey is president of the institution; Dr. Septum A. and William B. Ireland, vice-presidents, and Dr. Lucy W. Pine, secretary.——The Lutheran Hospital, Cleveland, will reopen, November 28, after having been closed since August 15. The capacity of the institution has been increased from 20 to 35.

PENNSYLVANIA.

Village for Consumptives.—State Health Commissioner, Dr. Samuel G. Dixon, awarded the contract for the erection of the buildings for the State Department of Health—South Mountain Sanatorium—at Mount Alto, December 9. The cost for the erection of the buildings is to be $56,368. This sum covers the cost of the erection of 40 four-room cottages, 16 pavilions and 10 accessory houses.

Fail to Report Births.—Fifteen physicians of Pittsburg were arrested December 12 at the instigation of Dr. James F. Edwards, superintendent of the local board of health, charged with violating the state law by failing to file records of births with the nearest health bureau. They were arraigned before a magistrate, but were allowed their freedom on the payment of costs. On the same date warrants were issued and served on 26 midwifes, also charged with violating the state law.

Asked to Drop Red Cross.—In order to prevent confusion in the public mind as to the real meaning of the "Red Cross," Capt. John S. Muckle, president of the Pennsylvania State Branch of the American Red Cross Society, acting under recently adopted resolutions, has directed the secretary to write to all hospitals, health bureaus and similar institutions throughout this state, asking them to desist from using the red cross on their ambulances and other pharaphernalia, and requesting them to adopt as a substitute the green cross of St. Andrew on a white field in compliance with the treaty of Geneva of 1864 and the revised treaty of 1906. The American National Red Cross with its various branches, aside from the Army and Navy hospitals, is the only duly recognized body authorized to bear this emblem.

Philadelphia.

Personal.—Drs. George I. MacLeod, Jr., and Maurice Ostheimer have sailed for Europe.

Crusade Against Disease.—A crusade directed against every form of disease, but especially consumption, is to be inaugurated in that congested section of the city bounded by the Delaware River, Broad Street, Race Street and Girard Avenue. Plans are under discussion for a new hospital in this district.

Money for Charity.—As a result of a charity bazaar held recently for the benefit of the Woman's Hospital, $800 was realized.——Provisional bequests from a trust sum of $89,000 are contained in the will of the late Eleanor Samuel to be divided between the Jewish Foster Home and the Jewish Hospital Association.

Personal.—Dr. John Rogers, New York City, delivered the Mütter lecture on surgical pathology at the College of Physicians, December 13. The subject was "Thyroidism and Its Treatment." Dr. Rogers was tendered a reception by Dr. George B. McClellan the same evening.——Dr. H. C. Righter, who has been confined to his home for several weeks with pneumonia, has resumed practice.——Dr. Paul J. Pontius has been elected chief surgeon of the Wills Eye Hospital, vice Dr. William W. McClure, resigned.——Dr. Fraser Percival has been appointed assistant medical inspector in the bureau of health, vice Dr. Henry C. Everett, resigned.

Health Report.—The total number of deaths reported for the week ended December 14 was 568, an increase of 93 over those of the previous week and an increase of 52 over the corresponding week of 1906. The principal causes of death were: Typhoid fever, 8; scarlet fever, 5; whooping cough, 5; diphtheria, 14; consumption, 53; cancer, 28; rheumatism and gout, 5; locomotor ataxia, 4; apoplexy, 27; heart disease, 51; acute respiratory diseases, 81; enteritis, 12; obstruction of intestines, 6; cirrhosis of the liver, 4; appendicitis, 4; nephritis, 58; congenital malformations, 9; premature birth, 9; congenital debility, 12; old age, 9; suicide, 7; accidents, 21, and marasmus, 4.——There were 219 cases of contagious diseases reported, with 27 deaths, as compared with 191 cases and 26 deaths reported in the preceding week.

Hospital Reports.—The report of the Germantown Hospital for November shows that 212 patients were treated in the institution and 1,364 patients in the various dispensaries.—— In the Presbyterian Hospital during November 154 patients were admitted and 1,754 patients were treated in the out-patient department.——During November, 69 new and 518 old cases were treated in the Philadelphia Eye, Ear, Nose and Throat Institute. During the fiscal year ended November 30, the number of new cases were 682 and the number of old cases reached 4,260.——During November, the Polyclinic Hospital treated 2,048 new patients in the various dispensaries, and the total visits made to the different dispensaries aggregated 7,892. In the accident ward 1,678 persons were treated, and the number of patients admitted to the house was 121.——At the Howard Hospital during November the accident cases treated reached 207; 88 patients were admitted to the house, and 508 new patients were treated in the dispensary.

Bequests.—By the will of the late Edwin S. Wills, a provisional bequest of four properties on Ridge Avenue was made to the Wills Eye Hospital.——The will of the late Adeline G. Fry bequeaths to the Germantown Dispensary and Hospital $3,000; to the Aid Society of the Philadelphia County Medical Society, $1,000; to the Home for Consumptives, Chestnut Hill, $2,000; to the Philadelphia Lying-in Charity Hospital, $6,000; and to Starr Centre, $6,000.——The will of the late David Scull bequeaths $5,000 to the Philadelphia Lying-in Charity to establish a free bed to be known as the Hannah E. Scull bed. The will also contains a second provisional bequest of $5,000 to the same hospital.——The will of the late Anna M. Doyle bequeaths $300 to the Little Sisters of the Poor; $300 to St. John's Orphan Asylum and $300 to St. Joseph's Hospital, Lancaster, Pa.——By a decision of the heirs of the late Charles J. Cox, the Episcopal Hospital will receive $10,000 for the establishment of two free beds to be called the Sixth Pennsylvania Cavalry free beds, for the reason that Mr. Cox was major of this regiment in service. This money was originally bequeathed for a monument for the regiment, but the regimental council decided it would be better to expend the money in charity, inasmuch as there were two monuments to the regiment already, one at Gettysburg and the other at Seven Oaks.

TENNESSEE.

Dr. Stephenson Not Dead.—In the issue of November 9, acting on information that was believed to be authentic, we announced the death of Dr. Charles V. Stephenson, Centerville. Information has since been received that Dr. Stephenson is not dead. We are glad to announce that the notice was incorrect and that Dr. Stephenson is still in the active practice of his profession.

Communicable Diseases.—Measles is reported to be prevalent in and around Clarksville; one school in the district has been closed on this account.——The schools of Greeneville have been closed on account of the prevalence of scarlet fever.——Eleven cases of diphtheria have been reported in Shelby County.—— Since October 25, 36 cases of smallpox have been reported in Nashville, all of a mild type.

Society Meets.—At the annual meeting of the Middle Tennessee Medical Association, held in Nashville, the following officers were elected: Dr. Enoch H. Jones, Murfreesboro, president; Dr. William Litterer, Nashville, vice-president, and Dr. R. L. Jones, Nashville, secretary-treasurer.——At the annual meeting of the Gibson County Medical Society, held in Trenton, December 3, Dr. James H. Preston, Humboldt, was elected president; Dr. Albert T. Clopton, Milan, vice-president, and Dr. W. C. McRee, Trenton, secretary and treasurer.

VIRGINIA.

Tuberculosis Dispensary Opened.—Health Officer Levy of Richmond has opened two free dispensaries for the treatment of tuberculosis; one for white patients on East Franklin Street, and one for colored patients at 412 North Twelfth Street.

Contagious Diseases.—During October, there was reported to the Virginia Board of Health typhoid fever in 71 counties; diphtheria in 33 counties; tuberculosis in 69 counties; measles in 8 counties; whooping cough in 31 counties, and smallpox in 3 counties.

Personal.—Drs. R. F. Ferguson and J. W. Whitten, who have been on the staff of the Pocahontas Hospital at the Jamestown Exhibition, have resigned and resumed active practice.—— Dr. R. Benton Davis and family, Holdcroft, have gone to Europe.——Dr. Robert H. Pretlow, Suffolk, assistant surgeon in the National Guard of Virginia, has resigned.——Dr. Leroy L. Sawyer, Great Bridge, has been re-elected physician of the Norfolk County almshouse.——Dr. Robert L. Corbell, Portsmouth, has been elected health officer and Dr. H. R. Drewry, Norfolk, assistant health officer of Norfolk County.——Dr. John B. Catlett, has been appointed physician to the Virginia School for the Deaf and Blind, Staunton, vice Dr. Benjamin M. Atkinson, who resigned, after 28 years of faithful service.—— Dr. Waller M. Holladay, Hampden-Sidney, is recovering from his recent attack of appendicitis.

Society Meeting.—At the annual meeting of the Medical Society of Virginia, held in Chase City, the following officers were elected: President, Dr. William F. Drewry, Petersburg; vice-presidents, Drs. Floyd J. Gregory, Keysville; John B. Fisher, Midlothian, and Harry R. Dupuy, Norfolk; recording secretary, Dr. Landon B. Edwards, Richmond; corresponding secretary, Dr. John F. Winn, Richmond, and treasurer, Dr. Robert M. Slaughter, Theological Seminary.——At the annual meeting of the Petersburg Medical Faculty, Dr. J. Bolling Jones was elected president; Dr. William C. Powell, vice-president, and Dr. Leverette S. Earley, secretary-treasurer.——The nineteenth session of the Southside Virginia Medical Association was held in Emporia, December 10, when the following officers were elected: President, Dr. Lucien Lofton, Emporia; vice-presidents,

Drs. William B. Barham, Newsoms, Samuel H. Moseley, Ebony, John G. Renney, Petersburg, and Charles W. Astrop, Surry; secretary, Dr. Emmett F. Reese, Courtland, and treasurer, Dr. Otto C. Wright, Jarratt.——The Richmond Academy of Medicine and Surgery, at its annual meeting, December 10, elected the following officers: President, Dr. Clifton M. Miller; vice-presidents, Drs. Alfred L. Gray, William A. Shepherd, and William J. West; secretary, Dr. Mark W. Peyser (re-elected); assistant secretary, Dr. W. Brownley Foster; and librarian, Dr. G. Paul LaRoque.

GENERAL.

Schools in Good Standing in Illinois.—The following schools are the only medical colleges in Illinois that are in "good standing" with the Illinois State Board of Health at the present time:

Bennett College of Eclectic Medicine and Surgery, Chicago.
Chicago College of Medicine and Surgery (formerly the American College of Medicine and Surgery), Chicago.
College of Physicians and Surgeons, Chicago.
Hahnemann Medical College, Chicago.
Illinois Medical College, Chicago.
Northwestern University Medical School, Chicago.
Rush Medical College, Chicago.

Examination for Assistant Surgeons for the Public Health and Marine-Hospital Service.—An examination will be held in Washington, D. C., Jan. 20, 1908, for candidates for admission to the grade of assistant surgeon in the Public Health and Marine-Hospital Service. Candidates must be between 22 and 30 years of age, graduates of a reputable medical college and must furnish testimonials as to their professional and moral character. In addition to the examination in medical subjects candidates must submit to a physical examination and are required to testify that they believe themselves free from any ailment which would disqualify them for service in any climate. For further information, or for invitation to appear before the board of examiners, address Surgeon General, Public Health and Marine-Hospital Service, Washington, D. C.

CANADA.

Smallpox.—Goderich and Berlin, Ont., have epidemics of smallpox, all cases being mild in character.

Tuberculosis Hospital.—The total cost of site and buildings for the Consumption Hospital at Tranquille, B. C., is $57,000. Twenty-seven patients have already applied for admission.

Vital Statistics.—The annual report of the board of health of St. John, N. B., shows that during the year ended October 31, there were 792 deaths, as compared with 752 in the previous official year. There were 97 deaths from consumption alone; and in the year there were 593 cases of infectious diseases with 19 deaths. Of the decedents 403 were males and 389 females.

Death Rate Among Canadian Indians.—Dr. P. H. Bryce, health officer for the Indian department at Ottawa, has recently issued an unfavorable report on the conditions prevailing among the Canadian Indians. One special part of the report deals with the Indian school children. Of 1,537 reported on, nearly 25 per cent. have died. In nearly all cases the invariable cause of death has been tuberculosis. The Indian schools have been running an average of fourteen years.

Personal.—Dr. Alfred Thompson is member of parliament for the Yukon.——Dr. C. K. Clarke, medical superintendent of the Toronto Provincial Hospital for the Insane, has been appointed professor of psychiatry in the University of Toronto. This is the first practical step toward the establishment of a psychiatric clinic in Toronto.——Dr. Bapty, Victoria, has been appointed assistant to Dr. Charles J. Fagan, provincial health officer of British Columbia.——Dr. Loir, a nephew of Pasteur, has lately been appointed professor of medicine at Laval University, Montreal.——Drs. William K. Ross and J. G. Fitzgerald of the Toronto Hospital for the Insane, have been appointed demonstrators in psychiatry in the department of medicine of Toronto University.——Dr. Harvey Clare, assistant resident physician at the Provincial Hospital for the Insane, New Westminster, B. C., has resigned.——Dr. Henry G. MacKid, Calgary, Alberta, has returned from Europe.——Dr. Robert C. Boyle, Vancouver, B. C., is in England.

Hospital News.—The Jews of Toronto are planning a Jewish hospital. Considerable money has been subscribed for the project.——Toronto may establish a civic hospital, if the suggestions of its medical health officer are carried out, as all the hospitals in Toronto are demanding from the city 70 cents instead of 50 per day for charity patients.——Alexandra and St. Paul's Contagious Diseases Hospitals, Montreal, can not run any other way but into debt on their present city allowances. They are asking the Montreal City Council to make an annual grant to each for $30,000.——The Hospital for Incurables, Toronto, recently held its annual meeting. During the hospital year ended September 30, 176 patients were cared for; 37 were added during the year; there were 31 deaths totaled; 4 left the institution, and there remain now in residence 141, 80 of whom are supported free of cost.——The Montreal General Hospital treated 238 patients in its wards in September; 223 were discharged and there were 25 deaths.

Society Meetings.—The medical men of West Middlesex met recently at Mount Brydges and formed an association, known as the Medical Association of the Western District of Middlesex. Dr. James MacArthur, London, representing the Ontario Medical Council, assisted in the organization. Dr. Gregg Henderson, Strathroy, was made temporary chairman, and Dr. Laurida J. A. Hyttenrauch, Appin, temporary secretary. The election for permanent officers resulted as follows: President, Dr. Laurida J. A. Hyttenrauch, Appin; vice-president, Dr. Oscar L. Berdan, Strathroy, and secretary-treasurer, Dr. William H. Woods, Mount Brydges.——The Canadian Medical Protective Association at its sixth annual meeting, held in Montreal, re-elected the following officers: President, Dr. Robert H. W. Powell, Ottawa; vice-president, Dr. J. Ollivier Camirand, Sherbrooke; secretary-treasurer, Dr. J. Fenton Argue, Ottawa, and solicitor, F. H. Chrysler, K.C., Ottawa. Provincial executives were elected as follows: Ontario—Drs. Edmund E. King, Toronto; Ingersoll Olmstead, Hamilton; David H. Arnott, London; James C. Connell, Kingston, and John D. Courtenay, Ottawa. Quebec—Drs. Herbert S. Birkett, F. Persillier Lachapelle, and J. Edmond Dube, all of Montreal. New Brunswick—Drs. Thomas D. Walker, St. John; Alfred B. Atherton, Fredericton, and Murray MacLaren, St. John. Nova Scotia—Drs. John Stewart, Halifax; John W. T. Patton, Truro, and Henry E. Kendall, Sydney. Prince Edward Island—Dr. Stephen R. Jenkins, Charlottetown. Manitoba—Drs. W. Harvey Smith, Winnipeg; John A. MacArthur, Winnipeg, and John Hardie, Morden. Northwest Territories—Drs. James D. Lafferty, Calgary, and Maurice McD. Seymour, Regina. British Columbia—Drs. Simon J. Tunstall, Vancouver; Oswald M. Jones, Victoria, and James H. King, Cranbrooke.

FOREIGN.

Forty-five Grains of Radium.—The Vienna papers announce that this large amount of radium has been extracted from the ten tons of ore given the Vienna Academy of Sciences by the government. The Austrian government refuses to sell the ore to outsiders.

Nagel Colored Plates Made German Standard for Vision Test.—The German railroads have ordered that the vision of employés must be tested henceforth with the colored plates originated by W. Nagel of Berlin, in place of the Holmgren skeins of colored yarns, hitherto used for the tests.

Medical Graduate at 50.—The University of Vienna recently conferred the medical degree on Count Vetter von der Lilie after he had completed the usual course with exceptional zeal. He is now 50 years old and has been prominent in political life, having served as president of the lower house of the Austrian parliament.

The Robert Koch Endowment Fund for the Campaign Against Tuberculosis.—The latest reports state that this fund has now reached $39,000. The Berlin Medical Society has given $250 and various other medical and hygienic societies lesser sums, the rest having been received from private sources. A committee has been formed in America, of which the president of the German Medical Society in New York, Carl Beck, is chairman, to receive subscriptions for the fund.

Self-Mutilation to Obtain Industrial Indemnities.—The recent legislation in Switzerland in regard to insurance against industrial accidents has bred a crop of malingerers. Bands of Italian workingmen have been discovered which made a practice of producing some superficial injury which they kept inflamed with table mustard and ascribed to some accident, incapacitating them for work and for which they drew their indemnity until the fraudulent nature of the injuries was discovered.

From Russia.—Among the members of the present duma are twenty-two physicians, belonging to seven different political parties. Our Russian exchanges still mention numerous cases of arrest of physicians for revolutionary activity. In the universities various professors are boycotted by the students and others are abused for their political beliefs. Some of the universities have been temporarily closed on account of the turbulence of the students and their revolutionary propaganda.

Honors to Martyr to Science.—Every year on October 5, the medical society of Lima, Peru, gathers to do homage to the memory of Daniel E. Carrion, the medical student who inoculated himself with Oroya fever in order to prove that it and Peruvian verruga were identical. He wrote a detailed descrip-

tion of his case as it progressed to its fatal termination, clearing up many points in this particular disease, which seems to be limited to Peru. It is now frequently called Carrion's disease.

Cholera Subsiding in Russia.—According to our St. Petersburg exchanges the approach of cold weather has put an end to the epidemic of cholera in many places and it is on the wane elsewhere. From the first cases reported in July up to October 16, 10,106 cases have been registered, with 4,772 deaths. Nearly a third of the total number were in the Astrachan district. In six weeks 1,020 cases developed there after the first case. The cholera invaded an infant asylum at Kiev and 15 died of the 40 infants affected. One of the wet nurses first contracted the disease, and the sanitary inspector ordered that the breasts of the ten wet nurses in the institution should be disinfected, but his orders were disregarded in this respect.

Acquittal of Proprietor of Cancer Cure—"Stroopal."—A merchant at Bielefeld, named Stroop, has been advertising and selling a secret cure for cancer, and suit was brought against him for obtaining money under false pretenses. He reiterated his claims for the remedy, stating that the prescription had been handed down for generations in his family, originating with a foreign army surgeon, who gave the prescription to his ancestors as a token of gratitude. It cures cancer unconditionally, he affirmed, if treated before ulceration. A number of witnesses testified to having been cured by the remedy, among them one registered physician. Notwithstanding the adverse comments of the medical experts, the suit against Stroop was dismissed, as bad faith on his part could not be proved.

Riotous Students Close Medical Schools.—Besides the Paris school, whose closing was recently mentioned in these columns, the school at Nancy and one in Germany, besides several in Russia, are closed at present for a few weeks or months, on account of lawlessness among the students. It seems rather a drastic measure to condemn the whole body of students to idleness on account of the turbulence of a few. The time lost is not credited to the students, and in Paris, at least, the medical library is locked up with the rest of the buildings. Possibly the authorities think that if the law-abiding students would be more energetic in their protests against the turbulence of their mates, the disturbances could be suppressed without the interference of the authorities, and that consequently they deserve the punishment inflicted.

Obersteiner's Silver Jubilee.—The profession in Vienna seized the occasion of the twenty-fifth anniversary of the founding of the Neurologic Institute of the university to do homage to its founder and director, Heinrich Obersteiner. He reached his sixtieth birthday just ten days before, and his numerous and important contributions to the anatomy, physiology and pathology of the central nervous system were reviewed by various speakers at the jubilee celebration. Obersteiner has presented the institute with an unrivaled library on the nervous system, and has also endowed it amply to keep up the library and museum. Fuchs says that Obersteiner incorporates in his person the two caryatides of neurology: Anatomy and Experiment. Fuchs' article describing the jubilee is published with a portrait of Obersteiner in the *Wien. klin. Rundsch.*, November 24.

Meeting of the German Society for Repression of Venereal Diseases.—The last public meeting was held in November in the City Hall building at Berlin, and was addressed by Münsterberg on "Prostitution and the State." He said that the authorities are compelled to study the subject of prostitution from the standpoint of repression of venereal diseases and the inadequacy of the present regulations, to say nothing of ordinary humanity to the falling. The key to prostitution he ascribed to the overcrowding of the poor and their deplorable home surroundings. Long before the body is prostituted, the mind is prostituted. He declared that the movement for separate quarters for the unmarried is an important progress in the repression of venereal diseases. Another important progress has recently been realized in Berlin in that diseased prostitutes are freed from police supervision as long as they are taking medical treatment. A number of Berlin specialists have undertaken to give free treatment to such women in response to the appeal of the authorities.

Denunciation of a Paris Surgeon for Imagined Malpractice.—Professor Bazy of the Beaujon Hospital was recently approached by a gentleman who claimed damages for injury inflicted on his mother by the leaving of compresses in her abdomen after an operation performed by the professor last year. Bazy makes a practice of dictating the particulars of every operation at the time, so that reference to his register showed that he had operated on the woman for relief of a large ovarian cyst. The general condition was so grave that he did not attempt to remove the cyst entire, but resected most of it and sutured the rest to the skin, thus forming a pocket like a kangaroo's pouch. This pocket was tamponed as usual, but the patient did not wait for it to heal, as ordered, but insisted on leaving the hospital in two weeks. Bazy remarks that as the hospital is not a prison he had no right to detain her. He heard nothing further from her until her son appeared, a year later, claiming damages on account of the tampons left in the cyst. The tampons were not inside the woman's abdomen, any more than a kangaroo's little one is inside her abdomen as it lies in her pouch or climbs in and out. The case was written up in the daily papers, however, with caustic comment on the "three yards of gauze found in the woman's abdomen at a later operation," with sensational imaginary accessory details. Professor Bazy's explanation of the case was published in the *Tribune Médicale*, November 16. He adds that no summons to legal proceedings has been served on him to date.

French Congress of Internal Medicine.—The questions discussed at this congress, held at Paris in October, were hemophilia, exophthalmic goiter and treatment of simple ulcer of the stomach. Carrière advised a warm and tempered climate for hemophilics, having known instances of cure following change of climate alone. In treatment he uses calcium salts, gelatin and serotherapy. He gives calcium chlorid in the dose of 0.2 gm. by day and year of age, doubling or even tripling the dose in some cases, and has cured five out of six patients by this means. The blood now coagulates in ten instead of thirty-nine minutes in one case, and nine instead of forty-three minutes in another. In order to maintain this cure the treatment has to be continued indefinitely. Whenever it is suspended the hemophilic accidents reappear. He has also obtained good results in four patients from gelatin, giving by the mouth 20 or 30 gm. a day, or 15 gm. by the rectum. Weil's serotherapy gives excellent results, but it requires repetition of the injection every tenth or fifteenth day to maintain the benefit. About 10 or 20 c.c. of fresh human, horse or rabbit serum are injected subcutaneously. He has given thyroid, thymus, suprarenal or liver extract in six cases and found that the last mentioned seemed to shorten considerably the interval before coagulation in three patients. Mercurial treatment gave unexpectedly favorable results in a number of cases of inherited syphilitic taint, the taint previously unsuspected in some instances. Treatment of the hemophilic tendency should never be omitted before and after an operation. Labbé reported excellent results from serotherapy. Weil has applied it in 11 cases and found it very effectual in preventing hemorrhage during and after an operation. This was most marked in sporadic hemophilia. In the familial form he warns against all operations unless extremely urgent. The serum seems to act by supplying the lacking plasmase. It is also useful applied locally, as also adrenalin. Weil and Claude reported a case of severe family hemophilia in which the condition has been much improved for more than a year by serotherapy, the injection repeated every tenth week. In discussing simple ulcer of the stomach the consensus of opinion seemed to be that medical measures should always be tried first, but that physicians should not allow the patient to become too much debilitated before advising surgical intervention. In treatment of exophthalmic goiter, the main point emphasized was to quiet the nervous system. Rest, hydrotherapy and electricity were commended, with sodium salicylate as the chief medicinal reliance. Roentgen treatment and resection of the sympathetic are still too new for results to be conclusive.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, Dec. 4, 1907.

Dr. Klein's Plague Prophylactic.

Dr. Klein has prepared a plague prophylactic from the dried tissues of animals experimentally infected with the disease. He has found that the dried tissues (bubo, spleen, lung) of animals dead of plague when injected into mice and rats not only produce symptoms characteristic of plague, but speedy death, although there is no multiplication of the bacilli in their bodies. He has also shown that by giving sublethal doses of this material to rats, they become immunized against inoculation with virulent bacilli. His latest investigations have been pursued with the object of finding the rodent best fitted to furnish a satisfactory plague prophylactic, the best method of preparing and preserving the material, and the dosage for ensuring protection without detriment to health. The guinea-pig, in which subacute plague has been produced, seems the most promising animal for furnishing the prophylactic in large amounts. With material so obtained he has succeeded in protecting not only rats but guinea-pigs, animals specially

susceptible to the disease. Monkeys may be regarded as experimental substitutes for man, and are highly susceptible to plague. Nevertheless, they proved easily protected against the disease by inoculations, relatively small in amount, and no toxic symptoms were produced by the treatment.

Death of a Surgeon from Septicemia After Operating for Appendicitis.

Dr. Robert Paton, of Newport, Monmouthshire, died from septicemia which developed after an operation for appendicitis. While bandaging the patient he scratched his finger with a safety pin. The scratch came in contact with the drainage tube inserted in the wound. Symptoms of septicemia appeared a few days later.

London School Children.

The report to the London County Council of the medical officer of the council of education, Dr. James Kerr, for the year ended March 31, 1907, has just been printed. The subject of school hygiene has been carried to a point at which it has to be determined whether the greater part of the medical inspection already accomplished shall remain fruitless, or the council take steps which will justify interference to secure that the children attending school have a fair chance of deriving benefit from the education offered to them. The time has come for considering what should be done in relation to certain conditions, such as defective vision, defective hearing, ringworm and decay of teeth, which either place direct impediments in the way of education or render the presence of children suffering from these conditions undesirable, and for which, in the majority of cases, neither private practitioners nor hospitals can provide sufficient or satisfactory relief. Attention is directed to the prevalence of uncleanliness among school children. Out of 1,350 girls in secondary schools, 12 per cent. displayed lack of cleanliness, either of skin or hair, or both, apart from neglect of teeth. This proportion must be below the average, because notice had been given and the children were specially prepared for the medical examination. In regard to the teeth, out of 700 children examined on admission to school, only 20 presented no signs of caries; 205 children had each 2 carious teeth; 152 had from 3 to 5, and the remaining 323 had more than 5. As shown by the experiments of Dr. Gordon (reported in THE JOURNAL) the septic contents of the mouths of these children would be continuously projected from them during the speaking incidental to school work, and the condition of atmosphere thus produced could scarcely fail to be injurious to all compelled to breathe it. At present, no machinery exists for dealing with this evil. Another prevalent evil is the presence of adenoids or enlarged tonsils. Of 1,521 children examined, the tonsils were found enlarged in 29 per cent., sufficiently enlarged to justify an operation in 10 per cent., and sufficient to require it urgently in 3 per cent. In respect to hearing, one-third of the children in the east end of London have subnormal hearing. Of a total of 409,944 children, 32,149, or 7.8 per cent., were found to have defective sight.

Medical Schools Controversy.

The Faculty of Medicine of the University of London is about to elect a representative to the senate under unusual circumstances. For five years the medical faculty and the senate have been considering the report issued by the royal commission urging the adoption of some scheme of centralization for medical studies. The senate authorized an appeal for $1,750,000 for establishing an institute of the medical sciences. About $350,000 has been received or promised. The objects of the fund are: 1, Elementary teaching; 2, advanced teaching, and 3, research. The smallness of the amount subscribed is due largely to the unwillingness of the hospitals to cooperate in what amounts to a destruction of their schools. However, the position of these schools is unsatisfactory. The cost of teaching the preliminary scientific subjects has been steadily increasing, while the number of students educated in London has been decreasing. The schools are for the most part in grave financial difficulties. In only three out of the eleven schools have the lecturers on medicine, surgery and midwifery been paid for some years. In one of these schools the value of the lectureship on surgery has fallen from $4,700 to $325. In another the lectureship on medicine, which years ago was worth $5,000, has fallen below $500. Two of the schools are subsidized by the governing body of the hospitals to which they are attached. In one the number of students is so few that the physicians have only one clinical clerk apiece. Such is the waste involved in so many schools providing staffs for teaching purposes that, although more than $50,000 is paid in a year to the lecturers and demonstrators of anatomy and physiology, yet not one of them receives more than would be regarded as contemptible in a provincial university.

Inauguration of the United Services Medical Society.

The want of a society in this country similar to the Association of Military Surgeons of the United States and the French Society of Military Medicine has been felt for some time. It has at last been supplied by the formation of the United Services Medical Society. It will bring together the officers of the medical services of the navy, army, colonial and auxiliary forces for the discussion of their common problems. The inaugural meeting was held at the Royal Army Medical College, and an address was delivered by Sir Herbert Ellis, director general of the medical department of the navy. He pointed out the advantages of the communication of the experiences of the medical officers of the various services gleaned from all over the world. At present these are pigeonholed in his department. Some are of original interest; others, perhaps, of little value. From time to time some eager investigator into disease obtains permission to investigate them, but for the most part whatever is good in them lies hidden. Now the society affords naval officers an opportunity for retailing their experiences and exchanging them with the members of the other services. Arrangements have been made for the publication of the papers read at the meetings and the discussions that follow them in the *Journal of the Royal Army Medical Corps*, but it is hoped that in time the society will have a periodical of its own for the purpose.

VIENNA LETTER.

(*From Our Regular Correspondent.*)

VIENNA, Dec. 4, 1907.

A "Medical" Campaign Against Vivisection.

The antivivisectionists have adopted a novel way of fighting what they call "the abominable practice of scientific research." The method consists in obtaining, by false pretenses, the signature of medical men to a position which they intend to forward to the house of parliament with a view to obtain legislative measures against the freedom of research. A considerable number of country practitioners have received quite recently by post an admonition to sign a petition, appended to the letter, in which the government and parliament are asked to appoint a board for studying the question of experiments on animals; furthermore, the abstract of a suggested bill is appended, which would regulate this question in such a way that a board of government officials, another board of local and municipal authorities and a third board of teachers and medical men should decide whether any given experiment is necessary or not. Without the unanimous consent of all members, no experiment on the living animal shall be lawful. The promoters of the idea are all physicians, so that the average doctor would be at a loss what to think of the request addressed to him, were it not for the fact that some of the undersigned doctors are magnetopaths, others owners of hydropathic establishments, others again homeopaths, and some others of evil reputation. These men are not at all competent to judge in such an important question, and their names, or rather their medical degrees are misleading, and have been purposely chosen by the committee of the antivivisectionists, which does not sign the request. Already several medical councils have taken a definite stand against such a misuse of the diplomas, and have warned their members against the missives of the "antis." There is no doubt whatever that this fine plan will prove a dead failure. Anyhow, it is only too noteworthy, with what means war is waged if reasonable opposition can not be thought possible.

Association News

THE NEXT ISSUE OF THE AMERICAN MEDICAL DIRECTORY.

A number of letters have been received to the effect that statements are being made, by certain parties for a purpose, that a second edition of the American Medical Directory would not be issued. No such statement has ever been authorized. Preparations are now being made for the 1908 edition of the Directory.

Members of the Association, as well as all others who desire an official directory of the American medical profession, published by the profession, should await the publication of this volume.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Acute Coryza.

There is a marked difference in the susceptibility of people to take cold, and especially to develop an acute nasal catarrh. Some patients can not be exposed to a single draft on any part of the body but that an acute coryza will be the result. Others may get wet, stand out in the damp, and be subjected to all degrees of exposure and never develop a cold.

Chilling of the surface of the body sends the blood to the internal parts and the mucous membranes become congested, and if there is a special susceptibility to inflammation in any one of these membranes, it begins an acute catarrh. It also seems to be a fact that the more a mucous membrane becomes congested and inflamed, the more liable it is to a recurrence of the inflammation. Probably, repeated inflammation causes more or less permanent hypertrophy of the membrane, and from that time on that region becomes a *locus minoris resistentiæ;* hence a person often afflicted with colds in the head will continue to have them. The same is true of pharyngitis, tonsillitis, laryngitis, duodenitis, enteritis, cystitis, urethritis and vaginitis.

The first signs of an acute inflammation of a mucous membrane are congestion, a drying of the surface, and a diminution of the normal secretion. This congestion soon causes swelling and heat and more or less erection of tissue, from the increased blood supply, and if the mucous membrane is in a narrow channel, there is naturally more or less obstruction. The next stage of this mucous membrane inflammation is the outpouring of more or less mucus, the surface of the membrane becomes moist, the pain which before was more or less in evidence is relieved on account of the oozing of serum, and later there is an extravasation of the white blood corpuscles in the form of dead cells or pus, and the pain and obstructive swelling which were previously present diminish. The propulsion of this increased secretion and excretion toward some external orifice begins, and the normal patulency of the part gradually returns. All mucous membrane inflammations tend toward recovery, the white cells cease to exude, the yellow purulent secretion stops, and then the mucopus gradually ceases, leaving an increased secretion of mucus, and this also soon becomes normal in amount. The inflammatory process is then finished, except that this membrane is more susceptible to such acute inflammation than it ever was before.

With such inflammation there may or may not be fever, rarely of high degree, generally coming down to normal after the acute congestive stage has passed.

Applying this pathology to an acute coryza, we find the tendency of the inflammation is to creep along the mucous membrane-lined canals in the region of the nose, and we have with almost every case of acute coryza an increased tension from swelling and pressure in the frontal sinuses. This does not often go on to frontal sinusitis, but a headache, or at least an uncomfortable feeling in the forehead, is more or less constantly present in the acute stage of coryza. Rarely an antrum may become involved. The tendency to this complication has been shown to be increased by any swelling that could obstruct the ducts of these cavities, hence hypertrophied nasal mucous membrane should be removed lest recurrent acute inflammations should cause one of the above complications.

THE TREATMENT OF ACUTE CORYZA.

1. Prophylaxis.
2. Treatment of the acute stage.
3. Treatment of the second stage, or stage of free mucopurulent discharge.

1. *Prophylaxis.*—As just stated, all obstructive hypertrophies of mucous membrane in the nose should be removed, nasopharyngeal adenoid tissue should be removed, and enlarged tonsils should be made smaller by tonsillotomy or by cauterization. Anything that makes fresh air go through the nostrils and prevents mucopurulent deposits or dust deposits from remaining in mucopurulent fields and pockets in the nostrils will prevent recurrences of nasal colds.

Any debility of the circulation tends to allow acute coryza, hence the circulation should be improved and the condition of the heart should always be investigated when there is tendency to nasal and throat congestion. Of course, applications of cold, as cold plunges in the morning with brisk rubbing, cold showers or sponging of the face, neck and chest with cold water, all tend to cause the external vasomotor system to resist sudden chilling by toning it up. Which of these methods should be instituted depends on the individual patient and his sturdiness, a weak patient receiving the least harsh cold applications. Patients with ever-recurring colds of nose, throat or bronchial tubes should, if possible, move to a dry climate. Repeated mucous membrane congestions of the upper air passages can but tend to give more or less permanent harbor to the ever present tuberculosis germ, and therefore prophylaxis of repeated colds becomes really the prophylaxis of pulmonary tuberculosis.

2. *Treatment of the Acute Stage, or Abortive Treatment.*—Many times acute coryza may be aborted, and the attempt to stop it should be made. There are various methods of changing the circulation and relieving internal congestions, and the general principles are the same in all cases wherever the localized inflammation may be, though there are additions to the treatment depending on the region involved. The general methods are: Some means to reduce an increased temperature; some means to bring the blood to the surface of the body and increase perspiration; some means to produce free catharsis and thus to deplete the blood vessels and diminish the blood pressure, diminished vasomotor tension reducing the localized congestion; and some means to prevent the development of the second stage, or stage of profuse secretion.

To bring about the change in the circulation which we desire, if the patient is first seen in the daytime, before the middle of the afternoon, the best treatment is a saline purge of some description as exemplified by the Compound Effervescing Powder (Seidlitz powder), or the Effervescing Citrate of Magnesium. If the patient is first seen in the evening, a small dose of calomel combined with bicarbonate of soda may be given, or a grain or two of calomel may be given with a compound aloin tablet, as:

R.	gm.		
Hydrargyri chloridi mitis.....	20	or	gr. [illegible]
Sodii bicarbonatis	1		gr. xv

M. et fac chartulam i.

Sig.: To be taken at once, best with milk.

A Dover's powder may be given at night, as:

R.	gm.		
Pulveris ipecacuanhæ et opii.....	1	or	gr. xv

Fac chartulas ii.

Sig.: One powder at bedtime.

Or, if the patient is seen in the afternoon, perhaps one of the best treatments is to omit the supper entirely except for a

cup of weak tea, and give at this time ¼ grain of morphin, and then before bedtime, three or four hours later, ¼ grain of morphin with perhaps a glass of lemonade and a small amount of whisky. Some patients, however, may have a little nausea in the morning from this morphin treatment.

Another abortive treatment is a full dose of antipyrin, as:

℞.	gm.		
Antipyrinæ	1]	or	gr. xv

Fac capsulas ii.

Sig.: Take both capsules at once, with a glass of hot water.

One of the best treatments for this stage of acute coryza is a combination of drugs which, when ready prepared in tablets goes under the name of "rhinitis" tablets. The following is a good sample combination:

℞.	gm.		
Aconitinæ	03		gr. ss
Atropinæ sulphatis	15		gr. iiss
Strychninæ sulphatis	60	or	gr. x
Morphinæ sulphatis	2		gr. xxx
Sacchari lactis q. s.			q. s.

M. et fac tabletas 1,000.

Sig.: "Rhinitis" or "cold" tablets.

Each tablet contains .00003 gm. (1/2000 gr.) of aconitin, .00015 gm. (1/400 gr.) of sulphate of atropin, .0006 gm. (1/100 gr.) of sulphate of strychnin, and .002 gm. (1/30 gr.) of sulphate of morphin.

These tablets are for dispensing in the office or from the pocket case, and about ten should be given the patient, with directions to take one every hour for three doses, and after that one every three hours. Under the action of these tablets the mucous membrane of the throat and nose is dried, the irritability of the nerves of the membrane is dulled, and the acute coryza may often be aborted. While taking this treatment large doses of liquids should not be allowed, as the more liquid in the system the more tendency to profuse secretion. Such treatment as this should not be continued more than twenty-four or forty-eight hours, and is naturally omitted during the night.

Aconite in the form of the tincture is often given to abort acute inflammations of the upper air passages. If aconite is given for this purpose, it should be given to its physiologic effect, i. e., two drops of the tincture every half-hour or hour until the pulse shows a distinct fall in blood pressure, as well as a decrease in rapidity. Unless only a limited number of doses have been given or a limited number of doses have been ordered, the patient should be seen in a few hours to note the effect of the drug. If aconite does any good at all, it will do it in the first twenty-four hours, and there can be no indication for its use on subsequent days of the disease.

Large doses of quinin are often given to abort colds, and while they are often successful, the above mentioned methods are as successful, and pleasanter. Also, with the tendency of late years for congestions and inflammations in the ear to take place, it seems inadvisable to give a drug that so acts on the blood vessels of the head and ears as to increase this predisposition and render liable a complication of middle-ear inflammation. Hence quinin had best not be used for this purpose.

Hot foot baths, whether they contain salt, or whether they contain mustard, or whether they contain nothing but plain water, relieve the congestion and feeling of fulness in the head, and, therefore, are good treatment. Hot baths are often good treatment in aborting an acute cold. All such hot-water treatments, however, should be taken only at bedtime, the patient going immediately into a warm bed and sleeping in a warm room. A Turkish bath in proper cases is also good treatment. On the other hand, strong diaphoretic measures or diaphoretic drugs are not now much used to abort colds, the after condition being depression and a tendency to catch another cold, even if the first is aborted. After strong diaphoretic measures the night before, the patient, even if most well, had better not go out of the house the next morning, and best not the next day.

Oil sprays in this stage may be soothing, but water sprays are not indicated, as they are liable to irritate, even in physiologic saline solution. In some instances the spraying of suprarenal solutions into the nostrils (one part of the active principle to 10,000 parts of water) may be of advantage, but it must be remembered that many nasal mucous membranes are irritated by suprarenal solutions.

3. *Treatment of the Second Stage.*—If the disease is not aborted and the second stage starts in, we then should aim to keep the mucous membrane as clean as possible of the mucopurulent discharge by spraying the nostrils with warm saline and bland alkaline solutions as exemplified by a Seiler's tablet dissolved in four or five tablespoonfuls of warm water, or as the Liquor Antisepticus Alkalinus (N. F.) diluted with two or three parts of warm water. These solutions should be sprayed into the nostrils three or four times during the day, and after the nose is cleaned the patient may snuff some through the nasal passages into the nasopharynx to remove mucopus from this region, and some should also be gargled to complete the cleansing process. If the patient is to go out of doors the nasal spraying had best be omitted, as it leaves the mucous membrane more sensitive to irritations from cold and from dust particles. The membrane may be more or less protected, however, by spraying, after the saline wash, with a non-irritant oil spray as represented by some combination of a bland, thin, pure oil containing a little menthol, eucalyptol, perhaps thymol, and possibly a little boric acid.

Such cleansing of the nostrils reduces the danger of the infection creeping into the sinuses connected with the nostrils. If the nasal and nasopharyngeal secretion is profuse and lasts more than a day or two, ammonium chlorid is indicated just as much in coryza as in bronchitis, as ammonium chlorid is stimulant to all mucous membranes, as:

℞.	gm. or c.c.		
Ammonii chloridi	5		℥iss
Syrupi ipecacuanhæ	5	or	℥iss
Syrupi acidi citrici.....	25		℥ij
Aquæ	ad 100		ad ℥iv

M. et sig.: A teaspoonful, in water, every two or three hours.

If the inflammation tends to be protracted and the nasal and nasopharyngeal catarrh persists, potassium or sodium iodid, in small doses, is good treatment as in persistent mucous membrane disturbances of any other part of the respiratory tract, as:

℞.	gm. or c.c.		
Potassii iodidi	5	or	℥iss
Aquæ	100		℥iv

M. et sig.: A teaspoonful, in water, three times a day, after meals.

Or:

℞.	gm. or c.c.		
Sodii iodidi	15	or	℥ss
Aquæ q. s. ad saturandum.			q. s. ad sat.

Sig.: Five drops, in water, three times a day, after meals. Each drop of a saturated solution of potassium or sodium iodid in water equals about .065 of a gram (or one grain).

[Many patients find the above iodids taken in milk to be almost tasteless.]

It must also be remembered that disagreeable drugs are many times best administered in effervescing water, the taste being covered by the effervescence. It is also generally bad prescription writing to attempt to disguise a bad-tasting salt or other drug with a sweet, sticky syrup. A drug had best be ordered "straight," and the patient, or the mother, or the nurse, will find how it can best be disguised or best administered to suit each individuality.

If there is a tendency to a recurrence of colds, the cause

should, of course, be sought and removed, if possible, but a susceptibility to colds has often been removed by the prolonged use of small doses of arsenic. This may or may not be combined with other tonic treatment as indicated, as:

B.	c.c.		
Liquoris potassii arsenitis.....	20	or	fʒss

Sig.: One drop, in water, three times a day, after meals.

Or:

B.	gm.		
Tabletas arseni trioxidi, ää.....	.002	or	gr. 1/30

No. 50.

Sig.: A tablet, three times a day, after meals.

Or:

B.	gm.		
Arseni trioxidi	.04		gr. 2/3
Strychninæ sulphatis	.04	or	gr. 2/3
Ferri redneti	2		gr. xxx

M. et fac capsulas xx.

Sig.: A capsule, three times a day, after meals.

Or:

B.	gm.		
Arseni trioxidi	.02		gr. 1/3
Strychninæ sulphatis	.02	or	gr 1/3
Quininæ sulphatis	2		gr. xxx
Massæ ferri carbonatis.....	2		gr. xxx

M. et fac pilulas xx.

Sig.: A pill, three times a day, after meals.

Or, if a bitter tonic is needed:

B.	c.c.		
Tincturæ cinchonæ compositæ.....100		or	fʒiv

Sig.: A teaspoonful, in water, three times a day, before meals.

Or:

B.	c.c.		
Elix. ferri, quininæ et strychninæ phos....100		or	fʒiv

Sig.: A teaspoonful, in water, three times a day, after meals.

Or:

B.	c.c.		
Elixiris gentianæ (N. F.).....100		or	fʒiv

Sig.: A teaspoonful, in water, three times a day, before meals.

While possibly pungent odors such as ammonia, camphor and menthol may be abortive during the first stage of a coryza, they are certainly valuable many times during the second stage as tending to make the secretion more liquid and to cause the pus and mucus to be more readily discharged.

Various menthol ointments, camphor ointments and suprarenal ointments may be used to coat the membrane of the lower part of the nostrils to soothe and relieve irritation and possibly prevent the swelling of the mucous membranes sufficient to produce obstruction.

Correspondence

A Story of the Seduction of a Young Physician by a "Patent Medicine" Firm.

WINFIELD, KAN., Dec. 9, 1907.

To the Editor:—I picked up the December number of *Appleton's Magazine* the other day and the first story I chanced to read was a surprise and revelation to me. It is entitled "The Edge of Circumstance," by Churchill Williams. I am not familiar with the author and do not know whether he is a physician or not, but he shows an intimate knowledge of the present state of affairs in the profession with regard to the nostrum evil.

The story itself is true to life and a good one. The hardships and "financial stringency" of the young practitioner who is its leading character are so true in fact that I venture to say 90 per cent. of all the physicians of our land have experienced something along the same line. Any young physician who is having a hard time getting started in his chosen work will read of the soul-trying experience of "Doctor Forsythe" with a smile and say, "Oh, how true that is!" The reminiscences of the older men who have been through the same trying times will be none the less clear and sympathetic.

Briefly told, it is the story of the buying of a young physician by a soulless "patent medicine" concern (the "Nervo-Sal Corporation"), the method by which this was accomplished and the feelings of "Doctor Forsythe" when he realized what he had done. It contains a number of lessons for the young medical man, impressing on him the extreme care he must take and the watchfulness he must exhibit if he wishes to remain out of the clutches of such abominable corporations; the common sense and eternal vigilance he must continuously use in living up to the true ethics of his profession; the censorship he must exercise in all his writings and the extreme danger in giving testimonials. It also shows again the same old tricky, underhand methods of the commercial drug concerns and their utter lack of any feeling of responsibility or guilt along these lines. Business conscience and private personal conscience have been shown time and again to be total strangers, yet they are becoming better acquainted every day and, we hope, will be fast friends and allies at a not far distant future.

We can not but admire the good old "Dr. Tuttle" of the story and the beautiful minor rôle he plays, but our real interest after all is not so much in the story itself. It is in the fact that such a story on such a subject finds a place in one of our monthly magazines, published by one of America's largest publishing houses. Could this have happened a few years ago? Would the reading public, the lay public, have had any interest in the problem now so prominent before the medical profession—the problem of the proprietary medicine evil? Would a magazine have used such a story and if it had, would the readers have cared for it? We have a hard fight still to carry on against the powerful drug interests (the unethical ones) and we may look for reverses and setbacks in plenty, but a world of encouragement comes from the mere fact of a story setting out our side of the case appearing in a monthly magazine and being read by thousands who otherwise would know nothing of the intricacies of the problem. It is just a ripple on the current of public opinion, but it helps to show which way that current is flowing and, in the struggle to overcome "The Great American Fraud," that same public opinion must eventually be the force that causes right to overcome wrong.

LLOYD A. CLARY, B.S., M.D.

Acknowledgment of Books Sent San Francisco Physicians.

PHILADELPHIA, Dec. 6, 1907.

To the Editor:—Will you kindly say to the members of the profession who were kind enough to send books to me for shipment to San Francisco that a letter received from Dr. Moffit states that they were received in good shape and that the contributions were appreciated. I ask this as most of the books were sent anonymously and, therefore, a personal letter of thanks can not be extended. J. H. MCGREW.

A Simple and Effective Chloroform Dropper.

CHATTANOOGA, TENN., Dec. 7, 1907.

To the Editor:—Push a small aspirating needle through a cork into a vial containing chloroform, remove the wire that prevents the needle from clogging and an ideal dropper is obtained. Replacing the wire or withdrawing the needle will close the opening. The same device makes a good medicine dropper. EDWIN B. ANDERSON.

More Skill and Fewer Tools.—Dr. Senn, lecturing to the surgeons of the Spanish-American War, stated to them that they should be found with several remedies and he then named salts of mercury and iodin, quinin, opium, ether, alcohol; less than a dozen in all. And for surgery he stated that most of the army work could be done with a vest pocket outfit of a scalpel, saw blade, needles and thread. A wise surgeon is better equipped with the materials, medical and surgical, which would not bulge the side pockets of a dress suit, than most men are with their cumbersome medicine chests and surgical outfits.—*Indiana Medical Journal.*

THE "HYOSCIN-MORPHIN-CACTIN" ANESTHESIA.

AN INTERESTING EXAMPLE OF THE SUBORDINATION OF SCIENCE TO COMMERCIALISM.

Scopolamin-Morphin Anesthesia.

Some eight years ago, a combination of scopolamin and morphin was introduced in Germany as an anesthetic. Since then it has been extensively used in Germany, France, Italy, Russia, the United States and elsewhere, and medical periodicals—German especially—have contained many articles, reports, etc., on the subject. While the method and technic originated in Germany, and while it has had its greatest use in that country, it has also been used more or less extensively in practically every other country, including the United States, and reports both favorable and unfavorable have appeared in all these countries. Our readers, through abstracts in the Current Medical Literature department, have been kept informed of what has been published at home and abroad regarding this method of producing anesthesia, but although the method has been used for over seven years it may be said to be still in an experimental stage.

Hyoscin-Morphin-Cactin Anesthesia.

Over a year ago the Abbott Alkaloidal Company put on the market as a "new" anesthetic, a tablet said to contain 1-100 grain of hyoscin, ¼ grain of morphin and 1/67 grain of a product called "cactin." During the past year this tablet has been exploited to an extent and in a manner as has no other medicinal preparation in this or in any other country. Full page advertisements and reading notices, all extravagantly laudatory of the preparation, have appeared in medical journals of all kinds. More original articles highly praising it have been published than have ever appeared in the same length of time on any other one medical subject. Extreme optimism has characterized the exploitation of the product from the very first.

> But greatest of all is the triumph the new remedy has won in the field of obstetrics. Nothing like it has ever appeared. Women who had taken chloroform in previous confinements say that the new remedy is incomparably superior. Every day I receive letters from men who assert that they are "scooping in the neighborhood" of obstetric practice since beginning the use of these tablets.
>
> Women are canceling their engagements with their old physicians to secure the attendance of those who employ the H. M. C. Comp. tablets. Men write to us that they are extinguishing the fear of child-birth, putting a stop to family quarrels, and one man goes so far as to predict an increase in the birth-rate of the American women as a result! When one is daily overwhelmed with shoals of such encomiums as these he can scarcely avoid becoming somewhat enthusiastic himself.

The above is reproduced as a sample of the scientific literature that has been appearing in medical journals. It is from a paper by Dr. W. C. Abbott, president of the Abbott Alkaloidal Company, which appeared as an original article in the *Chicago Medical Recorder*, September, 1907. It is a most optimistic write-up of the proprietary combination H. M. C. In this article Abbott refers to "cactin" as "a quickly acting stimulant of the heart and respiration." The journal in which this article appeared carries some of the worst nostrum advertisements and yet is edited and controlled in every way by a physician of high standing in the profession, and has on its "editorial board" some of the very best men in Chicago.

What is this combination on the promotion of which so much money and energy have been spent? Is it something new and original, as the advertising literature would lead one to believe? Everything connected with its promotion has conveyed the impression that this method of producing anesthesia is entirely new. Dr. Emory Lanphear, who seems to be interested in its promotion, has repeatedly referred to it as new. Here are a few quotations from his writings:

"After exhaustive experimentation, the formula decided on by Dr. Abbott and adopted and extensively used by myself is:

"Chemically pure hyoscin hydrobromid..... 1-100 gr.
"Chemically pure morphin hydrobromid..... 1-4 gr.
"Cactin (from *Cactus grandiflorus*)..... 1-67 gr."

"The formula of the hypodermic tablet finally decided on by Dr. Abbott and myself, after many experiments is:" and then follows the formula.

"The so-called Abbott-Lanphear anesthetic."

These are samples only; similar quotations could be made from Abbott's writings, and also from the literature in general. It is evident that it has been the intention of the manufacturers to convey the impression that this method of producing anesthesia originated with them. It is not strange, therefore, that many physicians who are unfamiliar with the subject are writing about it in a manner to show that they, too, consider it new. The majority of the reports carry this impression.

Dr. C. E. Case, Tacoma, Wash., in the Abbott Alkaloidal Company's journal—the *American Journal of Clinical Medicine*—in an article entitled, "The New Anesthesia—Remarkable Results," says: "Dr. Spiro Sargentich . . . joins me in expressions of the profoundest regard and thankfulness to both yourself and Dr. Lanphear in giving to the profession and to humanity so potent a remedy for good."

"This remarkable combination of Abbott's" is the way E. G. Paxton, of Chicago, refers to it.

Dr. E. A. Hall, Vancouver, writes: "During the last few operations I have used Lanphear's formula as an anesthetic."

Dr. G. H. Stephens, Personville, Texas, writes: "Hurrah for the new anesthetic, hyoscin, morphin and cactin comp., Abbott. It's O. K."

Dr. F. H. Lukin, Pamplin City, Va., says: "I am using the Abbott-Lanphear anesthetic, hyoscin, morphin and cactin compound, and find it a great thing."

Dr. B. H. Kohler, Reedsville, Pa., says: "Your Abbott-Lanphear anesthetic tablet fully justifies all your claims."

And so on,—the same idea is expressed by at least half of those who write or speak on the subject. But is it "new"? In one way, yes!

The combination of scopolamin-morphin has been on trial for the last eight years. It is non-proprietary, non-secret, no one firm has a monopoly on it, and there have been no commercial interests to exploit it for selfish gain. The "H-M-C (Abbott)" combination, which, as we shall show, is simply scopolamin-morphin, is owned and controlled by one firm, so it is proprietary (the name has been registered); and on account of the "cactin" is secret; it has been and is being exploited for commercial gain. From this point of view alone it is "new" and the Abbott Alkaloidal Company is to that extent justified in calling it "new." But the Abbott Alkaloidal Company will not agree with this reason for calling it "new." They claim that it is new, first, because they use hyoscin, which is safe, instead of scopolamin, which is dangerous; second, because they have added to it "cactin," which makes it still safer. Let us take up these two differences.

Are Hyoscin and Scopolamin the Same?

The conclusion that the alkaloid obtained from hyoscyamus and that obtained from *Scopolia atropoides* are identical chemically, physiologically and clinically was reached some years ago. The Abbott Company, however, seems not to accept this conclusion, as these quotations show. First, from an article by Abbott in the Abbott Alkaloidal Company's journal:

"It is now an established fact that hyoscin, when chemically pure, is not therapeutically identical with scopolamin, as some have claimed."

Dr. Abbott, in the *International Journal of Surgery*, March, 1907, says:

"My own views, as here and elsewhere expressed, are based on the use of the chemically pure alkaloids, hyoscin and morphin . . . but I am simply protesting against being held responsible for results accruing from the use of scopolamin by all sorts of operators, both at home and abroad."

From a communication to the *Fort Wayne Medical Journal-Magazine*, in which Dr. Abbott criticises the conclusions of an editorial that appeared in a previous number, which were to the effect that scopolamin-morphin is dangerous, and in which Wood's statistics are referred to, we quote:

"It will be noted that while Wood speaks of scopolamin *we talk of hyoscin* [italics in original]. He and others claim that these are identical; but whether this is correct or not (which we do not believe) we deem it wise to adhere to the true hyoscin derived from hyoscyamus. . . . Your statement that hyoscin-morphin has yielded a mortality of over four per thousand; and that 69 per cent. of its uses have been unsatisfactory is of course an error, your deductions being based on the assumption by Wood that scopolamin and hyoscin are one and the same thing, therefore that scopolamin-morphin and hyoscin, morphin and cactin are identical. The well-known obstacles in the way of the use of scopolamin-morphin, to which the writer long ago called attention, shall not be opposed to 'hyoscin, morphin and cactin,' which is quite another thing."

An editorial, presumably by Dr. Abbott in the issue of his journal for December, 1906, under the title, "Another Death from Scopolamin," contains an abstract of a report of a death in Europe from the use of scopolamin-morphin, and closes by saying: "If Rys had employed pure hyoscin hydrobromid with morphin it is probable there would have been no fatality."

From a letter from Dr. Abbott, published in THE JOURNAL of the American Medical Association, Jan. 26, 1907, we quote:

"I am perfectly well aware that scopolamin is claimed by some to be identical with hyoscin, but the fact remains that the same therapeutic results are not obtained from one that are obtained from the other."

The following quotations are from Lanphear:

"Knowing that hyoscin hydrobromid is a drug of known strength and especially valuing the fact that it is, apparently, perfectly safe—whereas scopolamin is notoriously unreliable, . . . I determined to give it a trial."

"There is on the market a great deal of 'scopolamin' which is *said* [italics in the original] to be identical with hyoscin, but—some of it contains atroscin, much of it has more or less apoatropin (which renders it dangerous). So the doctor should insist on having a tablet consisting of:"—then follows the "H-M-C" formula.

"Dr. W. C. Abbott, of Chicago, called attention to the fact that the good results attributed to scopolamin depend entirely on the amount of hyoscin which 'scopolamin' contains—in other words, that the anesthesia is a hyoscin anesthesia and not a scopolamin anesthesia, plus morphin. This seemed to me to be a declaration of marvelous possibilities." ["Marvelous possibilities" is appropriate.]

"Dr. Abbott's position is well known; that only pure hydrobromid of hyoscin should be employed for making this anesthetic tablet; and that if scopolamin be substituted it should be with a full understanding that by reason of one impurity or another it may be either unreliable or dangerous—a danger for which the surgeon himself must be held responsible, since he can easily secure pure hyoscin instead."

The following is taken from the Abbott Alkaloidal Company's price-list, and the same paragraph appears in the advertising literature and in advertisements of the product in current medical journals:

"NOTE—Scopolamin must not be substituted on this formula, neither hyoscin from scopola. Regardless of alleged chemical identity which we deny, physiologic results are NOT the same. Neither should you underestimate the value in this formula of 'Cactin.' It's the synergistic which produces the result. There is no 'just as good.'"

These quotations—the "H-M-C" "literature" is full of similar statements—are sufficient to show the emphasis with which this firm insists that the hyoscin is pure and its uses safe, while the scopolamin which has been in use by others is not chemically pure or safe. The one thing emphasized on all occasions is that hyoscin and scopolamin are different, that the former is pure and safe, the latter impure and dangerous.

These statements now being made by the Abbott Company would have been excusable ten years ago when there was a controversy on the question; the German literature, until within recent years, furnished an abundance of material from which to quote to prove that the alkaloid as made from hyoscyamus is different from that made from scopola. These quotations, however, will not apply now. The question was settled long ago by those who were competent to settle it—by those recognized as authorities on the subject. There have been echoes of the old controversy until recently, but this is as much as can be said. In spite of this, the Abbott Alkaloidal Company denies the conclusions and is making statements to-day that are more dogmatic than any that were made by the most earnest advocates during the height of the controversy a decade ago.

To save going into the question whether or not there is a difference, therapeutically, between the alkaloid made from hyoscyamus—provided such an alkaloid were obtainable—and that made from scopola or from some other of the *Solanaceæ*, we refer those interested to a "reply" to a letter from Dr. Abbott, published in THE JOURNAL of the American Medical Association, Jan. 26, 1907[1].

Hyoscin and Scopolamin Synonymous Terms.

Assuming for a moment that the alkaloid made from hyoscyamus is safer and better than that made from *Scopolia atropoides* and other of the *Solanaceæ* what evidence is there that the hyoscin on the market is made from hyoscyamus? As so much depends on this, so far at least, as the Abbott Alkaloidal Company is concerned, let us look at the facts.

What the Pharmacopeias Say.

The Pharmacopeia of a nation is the standard according to which drugs are manufactured and by which they are judged.

1. For the convenience of our readers we have decided to reprint this answer. It is as follows:

ANSWER.—The attitude of Dr. Abbott in his letter concerning the relation of hyoscin and scopolamin recalls very forcibly the position that was taken by many physicians some years ago concerning the physiologic action of thein and caffein. There was so much evidence, apparently authentic, to support the view that there was a marked difference between the therapeutic action of thein and caffein, that an exhaustive chemical and pharmacologic investigation was undertaken in one of the best-equipped university laboratories of the United States to determine once and for all the exact relation of these two supposedly different alkaloids. The chemical study demonstrated their chemical identity, and before the pharmacologic examination had fairly begun it was learned that the caffein used by the clinicians who reported a marked difference in its action from that of thein, had been actually manufactured from tea leaves, and was, therefore, nothing more than thein itself. Thus, this much-debated question was settled at one stroke. Among modern scientific men the question of the identity of hyoscin and scopolamin is not in dispute. It is only those who fail to keep pace with chemical and pharmacologic progress, and others, who for pecuniary reasons do not wish to keep pace, persist in maintaining that hyoscin and scopolamin are different bodies. It is really unfortunate that the confusion arising from the use of two names for a single valuable article must be perpetuated by selfish interests which profit to the extent that they succeed in befogging the physician. We will not quarrel over the nomenclature of the alkaloid under discussion, though there are good reasons why the name hyoscin might be abandoned. No less than three different bodies have at different times received the name "hyoscin." It was first applied to a decomposition product of hyoscyamin which is now universally recognized as tropin. Ladenburg later transferred the name to an amorphous alkaloid isomeric with atropin, which he claimed to have separated from hyoscyamus, but which was never found again, even by the largest alkaloid manufacturers of the world. Then Hesse used the same name to designate an alkaloid which he acknowledged, and which Schmidt amply demonstrated, to be identical with scopolamin. This identity was demonstrated not only chemically, but optically and pharmacologically by most careful methods. It is now, therefore, merely a matter of personal opinion or habit whether the name hyoscin or scopolamin shall receive preference. When Dr. Abbott condemns "scopolamin-morphin anesthesia" as being dangerous he condemns "hyoscin-morphin anesthesia" as well. From Dr. Abbott's letter we are expected to believe that all scopolamin on the market is a mixed product of atroscin and hyoscin and further that "the products of other houses" are to be looked on with suspicion. For the sake of argument let us assume that commercial scopolamin is a mixture of

In all countries these standards are recognized by law; they are the highest authority.

The alkaloid on the market as scopolamin hydrobromid or hyoscin hydrobromid is not made in the United States; so far as we are able to learn, it is made only in Germany—where the subject has been given more attention than elsewhere—and consequently is made according to the German Pharmacopeia. But the German Pharmacopeia recognizes the alkaloid only under the name scopolamin hydrobromid. Hyoscin hydrobromid was introduced into the German Pharmacopeia in 1891, but later the pharmacopeia commission adopted the name scopolamin hydrobromid to replace hyoscin hydrobromid, since the identity of the alkaloid from the different sources had become established. Hence, the German Pharmacopeia no longer retains the name hyoscin hydrobromid, for to do so would be to give two names to the same article. As we shall see, one nation—the United States—does do this, and officially recognizes the same alkaloid by two different names.

The United States Pharmacopeia—eighth revision, which became official in 1905—adopted the new and more correct name, scopolamin hydrobromid, at the same time retaining the old name hyoscin hydrobromid. The definitions are as follows:

"Hyoscinæ Hydrobromidum. Hyoscin Hydrobromid. The hydrobromid ($HBr.C_{17}H_{21}NO_4+3H_2O$) of an alkaloid chemically identical with scopolamin, obtained from hyoscyamus and other plants of the *Solanaceæ*."

"Scopolaminæ Hydrobromidum. Scopolamin Hydrobromid. The hydrobromid ($HBr.C_{17}H_{21}NO_4+3H_2O$) of an alkaloid obtained from plants of the *Solanaceæ*; chemically identical with hyoscin hydrobromid (see hyoscin hydrobromidum)."

The British Pharmacopeia (issued nine years ago, 1898), describe the alkaloid under the definition hyoscin hydrobromid, but gives as a synonym scopolamin hydrobromid. It is described as follows:

"Hyoscinæ Hydrobromidium. Hyoscin Hydrobromid. Synonyms.—Hydrobromate of Hyoscin; Scopolamin Hydrobromid. The hydrobromid, $C_{17}H_{21}NO_4$, HBr, $3H_2O$, of an alkaloid contained in hyoscyamus leaves, different species of *Scopola* and possibly other solanaceous plants."

The Danish, the Swiss, the Netherlands and the Japanese pharmacopeias, all of which have been revised recently, describe the alkaloid under scopolamin hydrobromid, but do not mention hyoscin. Neither the French, the Italian nor the Austrian pharmacopeias mention the alkaloid under any name. Some of these, however, are not recent.

From the above it will be seen that the pharmacopeias that mention it at all recognize the alkaloid as identical, whether it is made from hyoscyamus or scopola; all, with the exception of the United States and British pharmacopeias, have discarded the name hyoscin hydrobromid; and these two—the United States and British—use the terms hyoscin hydrobromid and scopolamin hydrobromid as synonymous terms. Yet in spite of this the Abbott people have the effrontery and the colossal conceit to deny brazenly that which the scientific world has accepted as proved facts. Is this done through ignorance or for commercial gain?

What the Manufacturers Say.

If we need further confirmation of the fact that the alkaloid sold under the two names is identical, let us turn to the manufacturers; they certainly ought to know what they are putting on the market.

As already stated, Germany supplies the world (including the Abbott Alkaloidal Company) with this drug, and investigation seems to show that most, if not all, of that which is imported into this country is made by E. Merck of Darmstadt, or by C. F. Boehringer & Soehne of Mannheim-Waldhof, and is imported by their respective representatives, Merck & Co., New York, and C. F. Boehringer & Soehne, New York.

Since Dr. Abbott is quoted as saying that his firm obtains its "hyoscin" from Merck & Co., let us first see what the latter say.

Merck & Co. issues a book called "Merck's Index," which is considered a reliable authority on alkaloids, etc. From the 1907 edition we quote:

"Hyoscin.—According to the latest investigations, it is chemically and physiologically identical with scopolamin (q. v.)."

"Scopolamin.—Salt of alkaloid from roots of various plants of *Solanaceæ*, chemically, physiologically and clinically identical with hyoscin."

In a letter to a member of the Council on Pharmacy and Chemistry, under date of Aug. 14, 1907, Merck & Co. write:

"We may say that, as the fact of the identity of hyoscin and scopolamin has been absolutely established, hyoscyamus is no longer the sole source from which hyoscin is made. For this reason we have some time since discontinued the use of the expression 'from hyoscyamus' on our labels and in our literature."

In the price list issued by C. F. Boehringer & Soehne, hyoscin is given in its alphabetical order, followed by "see scopolamin." Referring to scopolamin, we find "Identical with hyoscin hydrobromid." In a description of scopolamin in another part of the price-list appears the following important statement:

"Scopolamin.—Hyoscin hydrobromate was admitted to the U. S. P. 1890. The German Pharmacopeia of the same issue also made this product official, but in a supplement, issued a year later, the pharmacopeial commission adopted the name *scopolamin hydrobromate* to replace 'hyoscin.' The reason for this change is that nearly all the hyoscin supplied by manufacturing chemists is made from *Scopolia atropoides*, and hence 'scopolamin' more correctly indicates the source of the alkaloid. In this country the name hyoscin is, moreover, alleged to be a trade-mark, and as a consequence it is sold at an exceptionally high price. Taking these facts into consideration, we supply this product labeled thus: 'Scopolamin hydrobromate, identical with hyoscin hydrobrom., U. S. P., in 5, 10 and 15 grain vials. We guarantee the identity of our product with the hyoscin hydrobromate of the U. S. Pharmacopeia."

After giving these ample facts, we do not think it necessary to enlarge on the argument by quoting from the statements of the leading authorities on pharmacognosy, pharmacology, etc.

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atroscin (racemic scopolamin) and hyoscin (levo-scopolamin) and then note the results of the classical work of Cushny on this very subject which was published in the *Journal of Physiology*, vol. xxxii, July 13, 1905. He says "Levo-hyoscin (scopolamin) and racemic hyoscin (atroscin) have the same effect on the central nervous system in man and mammals. . . ." No one has disputed the accuracy of these results which are practically quantitative. Since the cause of death by hyoscin (scopolamin) morphin anesthesia is due to failure of respiration, a mixture of hyoscin and atroscin would be just as dangerous, but no more so than if either one were administered alone. In other words, as far as the dangerous effect is concerned, commercial scopolamin would have the same action as pure scopolamin (hyoscin). But as a matter of fact this assumption that commercial scopolamin is always a mixture of atroscin and hyoscin is absolutely unwarranted. When it is considered that the Abbott Alkaloidal Company does not manufacture the alkaloid, but purchases it from sources which must be open to other pharmaceutical houses, the insinuation that the products of other houses may be unreliable and the inference that the only pure hyoscin (scopolamin) to be found in the market is in the form of "hyoscin-morphin cactin" tablets is amusing, to say the least, and will not be likely to deceive. In this connection it seems very remarkable that Shoemaker's "Therapeutics," which the author of the letter quotes to substantiate his position, passes by without even mentioning the beautiful and epoch-making researches of E. Schmidt and his pupils, who have done much to clear up the chemical and optical properties of this interesting alkaloid. "The elaborate and learned study of many authorities," referred to by Dr. Abbott, consists of the work of Ladenburg, which is only of historical interest, since it is inaccurate and no longer recognized, and that of Henne, who at first championed the views of Ladenburg but was later compelled to acknowledge the accuracy of Schmidt's splendid researches. There is still one factor to be considered in this discussion and that is the use of cactin, whatever that may be. The only object of using this substance in this combination can be to counteract the dangerous respiratory depression of the hyoscin-morphin. Cactus has never been vaunted as a respiratory stimulant, but rather as a cardiac stimulant, equal to digitalis. Cactus is, however, a very uncertain drug, enormous doses of the very best preparations having been administered without producing the least effect. In some cases a slight rise in blood pressure has been noted, but in no case has the effect been comparable to digitalis. But assuming that cactus or cactin is all that its most enthusiastic supporters claim for it, the respiratory depression still remains, and, therefore, the element of danger is not eliminated. Since no convincing evidence has been offered that the use of the name "hyoscin" instead of the word "scopolamin" makes "hyoscin- (scopolamin) morphin" safe, no amount of juggling can conceal the fact that "hyoscin-morphin anesthesia" is fraught with great danger.

Conclusions as to Hyoscin and Scopolamin.

From the above facts we are compelled to make the following conclusions:

1. Hyoscin and scopolamin are synonymous terms for the same alkaloid.

2. The claim of the Abbott Alkaloidal Company to the effect that the alkaloid it uses, and which it calls "hyoscin," is purer and safer than scopolamin has no basis in fact, for that alkaloid is scopolamin.

3. No one connected with the Abbott Alkaloidal Company—or, for that matter, anyone else—is able to detect whether the alkaloid it buys is made from hyoscyamus or from some other plant of the same family. It may be chemically pure—or impure—whether marketed under the name hyoscin hydrobromid or scopolamin hydrobromid.

4. The Abbott Alkaloidal Company, therefore, has been misleading the medical profession of the United States regarding hyoscin in its "H-M-C" tablets, and has been doing this either deliberately, with the intention of deceiving for commercial gain, or from ignorance of well-known facts.

"Cactin," What Is It?

We have shown that the "H-M-C" tablets of the Abbott Alkaloidal Co. are simply scopolamin-morphin plus "cactin." What is "cactin"? There is no such drug in the Pharmacopeia of the United States or in any other Pharmacopeia; it is not in the National nor in the United States Dispensatory; neither have we been able to find it in the price lists or catalogues of the leading pharmaceutical firms of this or of any other country. There is a proprietary remedy called "Cactina Pillets," but "cactin" is presumably a different thing. What is it? Originally, the Abbott Alkaloidal Co.'s price list defined it as a glucosid. Now, however, it is classed as "a concentration." Presumably it is a tincture of *Cactus grandiflorus*, but just what it is we do not know.[2] Whatever it is, it is a secret, and is a product of, and controlled by, the Abbott Alkaloidal Co., can be obtained of no one else, and, therefore, is a nostrum.

"Cactin," What Are Its Therapeutic Properties?

But under the present circumstances it is immaterial what it is. It is more important to know what it will do, what its properties are. So far as we know, there is no reliable evidence of its having any virtue whatever. Dr. Abbott recently was asked in a society meeting whether his firm had made any physiologic test with it; he acknowledged that it had not.

While the firm itself has not put "cactin" to a physiologic test, others have. As will be remembered, Prof. Robert A. Hatcher made some experiments in the Loomis Laboratory of Cornell Medical College, New York, and his report was published in THE JOURNAL, September 21. His conclusions are: "These two preparations (cactina pillets of the Sultan Drug Co. and Abbott's cactin) are not only devoid of a digitalis-like or a strychnin-like action, but they are inert when used on animals in doses that are hundreds, and even thousands, of times as large as those recommended by their exploiters." It is now three months since Hatcher's article appeared, which is ample time for presentation of reliable evidence that his conclusions were wrong. No such evidence has yet been offered.

Prof. S. A. Mathews, of the Laboratory of Experimental Therapeutics of the University of Chicago, has been experimenting with the product and we have his report ready for publication. His conclusions, however, are the same as, and his work corroborates that of, Hatcher. The writer of these lines swallowed the pillets contained in a bottle labeled "Cardiac Tonic (cactin) (45) gr. 1-124. Gm. .0005," supposed to contain one hundred of the pillets. These were all taken within fifteen minutes, and the experiment was repeated at another time. No effect was appreciated; the pulse did not seem to be affected in the slightest, nor was there any change in the breathing. Possibly "cactin" has some mysterious power of acting only when the heart "wabbles." This experiment is not reported as a scientific one, but is given for what it is worth. Considering that there was taken at one time 100 times more than is contained in the smaller (No. 1) "H-M-C" tablet, one is prompted to conclude with those who performed the experiments on animals that *"cactin" is inert.* Our readers are asked to bear this in mind when reading the quotations below:

The following is not a "patent-medicine" advertisement, as some may think on reading it, but is taken from the *New York Medical Journal* of Oct. 19, 1907:

"Whether the indication is a pulse which is too fast or too slow, too weak or too strong, if the cause is vasomotor instability, as in the tobacco heart, the heart of the drunkard, some cases of menopause, overwork, etc., no remedy in the proper condition will do just what cactin will; no remedy will so quickly restore the necessary equilibrium as this; continued as required in 'dose enough,' no remedy will serve better. Cactin is a balancer, and it is this peculiar balancing action on the circulation, preventing regional dilation, which accounts for the wonderful and otherwise inexplicable effect of hyoscin-morphin-cactin compound as compared with hyoscin and morphin alone."

"Cactin" has the remarkable power of slowing the pulse if too fast, and of increasing it if too slow; of making it stronger if too weak, or making it weaker if too strong! Think of it! No wonder it has "a wonderful and otherwise inexplicable effect!"

"The value of cardiac stimulant, cactin, which is added to obviate any possible depressant effect, is also ignored by Wood; yet one of the first surgeons of the midwest [Lanphear?] assured the writer that he looked on this addition as of the first importance in rendering the combination perfectly safe."—(W. C. Abbott, *Fort Wayne Medical Journal*, May, 1907.)

The literature on "cactin" is of the character of the above two quotations.

Conclusion as to "Cactin."

Comparing the results of physiologic experiments with the claims made by the Abbott Alkaloidal Company concerning "cactin," we leave it to our readers to decide for themselves whether or not "cactin" is a fraud.

Conclusion as to "H-M-C Abbott."

To sum up the facts concerning the "H-M-C" tablets, it may be said that this mixture is nothing but scopolamin-morphin to which has been added an inert secret article called "cactin," thus adding mystery to it all and making out of this well-known and important combination of scopolamin-morphin a proprietary nostrum.

2. "Concentration" applied to pharmaceutical preparations is a loose term, originating with the eclectics and used to indicate the class of preparations obtained by extracting drugs and concentrating the extract by precipitating it in water, or by some similar process. The terms "concentration" and "resinoid" were regarded as practically synonymous, indicating a more or less indefinite dry mixture of the proximate principles of the plant whence derived. The only preparation of cactus used by the eclectics, so far as we can learn, has always been the so-called "green" or "specific" tincture. According to the accepted nomenclature of the U. S. Pharmacopeia, the name "cactin" should mean a glucosid or some other active principle. As a matter of fact, however, no active principle has ever been isolated from *Cactus grandiflorus*.

Book Notices

THE LIFE OF NATHAN SMITH DAVIS, A.M., M.D., LL.D., 1817-1904. By I. N. Danforth, A.M., M.D., Chicago, Ill. Illustrated. Cloth. Pp. 193. Price, $2.00. Chicago: Cleveland Press, 1907.

No physician in his time had a greater influence on our profession, none was better known, none better loved, than Dr. Nathan Smith Davis. He was a man of action, and that action was not limited to local but extended to national affairs, at least so far as concerned medical matters. He is called the father of the American Medical Association, not only because he individually was responsible for calling the national convention which resulted in its organization, but because he was the one active figure present at every meeting for the first half-century of its existence, and because during that time he did as much in directing its activities as any other one man.

It is a pity that when Dr. Danforth started to gather material for a biography of Dr. Davis, he found so little in the form of correspondence and manuscript to aid him. "I have been much handicapped," he says in the preface, "by the absence of original documents, such as letters and the various

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manuscript sources of information usually left by public men." It is such material that makes it possible for a biographer to present the man as he actually was, for it is in letters written in privacy, originally intended to be read only by the one addressed, that one lets out one's soul and shows one's true character. In his prime, in fact, until the last four or five years of his life, Dr. Davis had a large correspondence, not alone with medical men, but with other active workers, and it is to be regretted that none of this was obtainable. In spite of the absence of such material, however, Dr. Danforth has succeeded in presenting a readable and interesting biography, including the principal events in the life of Dr. Davis. The facts connected with his boyhood and youth are few, but when he entered on his medical career his professional and public activities were recorded and his life easily followed. It was after he moved to Chicago, in 1849, that his energy began to show itself and bring results. His efforts to improve the methods of instruction in Rush Medical College failing, he joined the little band that started the Chicago Medical College, which at once set an example in higher medical education. Here were put into effect the methods that Dr. Davis had so long advocated, and for years this college was far in advance of any similar institution in the country.

Only one of the addresses or published papers of Dr. Davis is included in the biography—his address as president of the International Medical Congress of 1887. There are included, however, accounts of the testimonial banquet given by the members of the Chicago Medical Society in 1901, and the addresses of that occasion; also the memorial services and the addresses by Bishop Spaulding and Bishop Merrill delivered at that time.

TREATMENT OF DISEASES OF CHILDREN. By Charles Gilmore Kerley, M.D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital. Fully Illustrated. Cloth. Pp. 594. Price, $5.00 net. Philadelphia and London: W. B. Saunders Co., 1907.

This book "has not been written with a view to supplying the needs of the specialist in children's diseases." . . . This statement, in the preface, is perhaps the one more worthy of criticism than any other in the book, for few, indeed, are the pediatricians who will not profit by a study of its pages, so thorough and painstaking is the attention to minute details, on the careful carrying out of which depends success in the practice of pediatrics. This characteristic runs throughout the book and the physician will find given minute directions for the child's general hygiene and diet in health, as well as for his care in illness. The author strikes the keynote in naming as the chief requisite for the successful practice among infants and children the education of the mother. The necessity of intelligent home cooperation can not be overestimated. The necessity of proper growth and development during childhood in producing a healthy, vigorous adult is clearly set forth, and the author attaches to general hygiene and diet their proper importance in securing this growth and development. "The child is to have a future. His health, vigor, powers of resistance, happiness and usefulness as a citizen are determined in no small degree by the nature of his care during the first fifteen years of life. He has a right to demand that such care be given him as will be conducive at least to a sound, well-developed body, and this should be our first thought and object regarding him." These words are full of truth and should be borne constantly in mind by the physician working among children. The value of any book on pediatrics may be estimated by the quality and quantity of work devoted to infant feeding, and on this subject the author is especially strong. He sees, in American women, an increasing capacity for nursing their babies and attributes this to the outdoor life and athletics more commonly practiced by girls in recent years. We hope his observation is correct. He still recognizes, however, the frequency and importance of substitute feeding and directions for carrying it out are given in detail, from cow to baby. Kerley decries the prevailing carelessness on the part of some physicians in their management of contagious diseases and their neglect of ordinary precautions against spreading the disease. Directions for quarantine are carefully given. He advocates, most wisely, the administration of large doses of antitoxin early in diphtheria, especially in the laryngeal form. Such advice can not be repeated too often or too emphatically. A new departure in a text-book on pediatrics, and one to be most heartily commended, is a section on "Gymnastic Therapeutics," in which are described the methods of "corrective gymnastics," a system of therapeutics destined to be invaluable in promoting the proper and uniform growth of the child and in correcting deformities. The physician will find in this section directions, fully illustrated, for applying these corrective exercises. This section constitutes one of the most important parts of the book. Taken altogether, this is one of the most valuable books which has yet appeared in the English language on the treatment and management of infants and children.

TEXT-BOOK OF CLINICAL ANATOMY for Students and Practitioners. By Daniel N. Eisendrath, A.B., M.D., Adjunct Professor of Surgery in the Medical Department of the University of Illinois. Second Edition. Thoroughly Revised. Cloth. Pp. 535. Price, $5.00. Philadelphia and London: W. B. Saunders Co., 1907.

This work is minute and detailed enough to serve the needs of the general practitioner and surgeon for constant consultation and is also sufficiently compact to serve as a text-book for students. It is copiously illustrated with photographs, diagrams, cross-sections, etc. All of the illustrations are good and many of them are admirable and of particular value as graphic aids to the teacher. The typographical work on the second edition is, if anything, better than on the first, the paper being of a heavy quality and the type clear and pleasing. The book is bound in buckram and is of convenient size.

A MANUAL OF PHYSIOLOGICAL AND CLINICAL CHEMISTRY. By Elias H. Bartley, B.S., M.D., Ph.G., Professor of Chemistry, Toxicology and Pediatrics in the Long Island Hospital; Author of "Medical and Pharmaceutical Chemistry." Third Edition, Revised and Enlarged. With 51 Illustrations. Cloth. Pp. 202. Price, $1.00. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St., 1907.

The ideal medical chemistry, according to Professor Bartley, is one that shall teach the fundamental principles and the application of those principles to the science of medicine, especially to the diagnosis and treatment of diseased conditions. The present edition of his work on Physiological and Clinical Chemistry, like its predecessors, is based on this conception. The book forms a convenient guide for the clinical chemical work of the physician brought up to date, and still kept within the moderate compass of less than 200 pages.

REGISTER OF FOODS. A Graphic Study of Eatables by the Comparison of the Percentages of Their Principal Chemical Elements, Designed for Students of Dietetics. Copyright by P. W. Goldsbury, M.D. Cardboard. Boston: Whitcomb and Barrows.

This is a handsome and convenient chart for ascertaining at a glance the proportion of carbohydrates, proteins, fat, water and mineral matter in the various foodstuffs. The amounts are indicated by colored lines. The fuel value in calories per pound is given at the end of the line. The chart can be hung on the wall or folded to folio size. The device bids fair to be useful as a reminder of the detailed composition of food which it is impossible to bear constantly in mind and which often is found in books only after considerable trouble.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

HOT DRY PACK FOR SEASICKNESS.

MANILA, P. I., Nov. 5, 1907.

To the Editor:—I noticed some time ago that Mr. Eugen Wolf, a noted German traveler, proposed the use of hot towels to the head in cases of seasickness. What I have employed, and found of the utmost value, is a full, hot dry pack to the entire body, including the head. This should be kept up until the superficial vessels become fully dilated. Its effects in my hands have proved it to be the most effectual remedy against this most distressing affection that I have ever employed in a long and varied experience at sea.

H. W. YEMANS.

PROTEID PUTREFACTION.

ST. LOUIS, Dec. 3, 1907.

To the Editor:—Will you be kind enough to state in THE JOURNAL the various chemical processes as they occur during the process of putrefaction of proteid material, viz.: what and how are the various compounds of putrefaction formed and which are the end-products? 2. I am specially interested to know if free fats (not volatile fatty acids) may be produced in purely albumin-

ous tissue, viz.: tissue which normally contains no fat nor carbohydrates. Kindly give references to literature on the subject.

H. PRINS.

ANSWER.—To answer fully and satisfactorily a question of this kind would entail the writing of no small volume. But a short and superficial outline of the present knowledge on the subject, giving a general idea of the chemistry of proteid decomposition, can be given.

In general, the products of bacterial decomposition, or putrefaction, are the same as those resulting from the action of tryptic digestion or the action of mineral acids. The difference in the two decompositions lies in the final cleavage products. In the case of the tryptic digestion the end-products consist of amino-fatty acids and amino-aromatic acids, while the end-products of putrefaction consist of bodies formed by the further action on these amino acids. It has also been found that the kind of bacteria has a marked influence on the decomposition and on the nature of the end-products. Along this line of work Nencki (*Monatshefi f. Chem.*, x, 906) has studied the action of anaërobic bacteria. His work was closely followed by the publication of results on further researches on the same class of bacteria by Kerry (Ibid, x, 864), Selitreny (Ibid, x, 908) and by Zoja (*Zts. f. physiol. Chem.*, xxiii, 236). The action on tubercle bacilli was studied by Kühne (*Zts. f. Biol.*, xxix, 236), while *Streptococcus longus* was studied by Emmerling (*Ber. d. Deutsch. chem. Ges.*, xxx, 2, 863), and *Bacillus coli* and *Proteus vulgaris* were left to Taylor (*Zts. f. physiol. Chem.* xxxvi, 487). The results of these researches show that in general the action of the different bacteria is the same, yet in particular end-products they differ.

The reaction of bacteria on proteids results first in the formation of albumoses and peptones. The former, the intermediate product between proteid and peptone, is still an albuminous body, but differs from the true albumins in its chemical properties and reaction with the proteid reagents. Peptone is the last of the products which can still be classed as an albuminous body and differs markedly from the albumoses in chemical reactions. From albumoses and peptones are produced the various amino acids, which are simply fatty and aromatic acids in which one of the hydrogen atoms has been replaced by a basic ammonia radical. These amino acids have been shown to be excellent nutrients for bacteria by Czapek (*Hofmeister's Beitrage*, i, 338) and Emmerling (*Ber. d. Deutsch., chem. Ges.*, xxxv, (2), 2280), and so further cleavage of the amino acids was looked for and finally found. The amino acids are split in two ways, namely: 1, The ammonia is eliminated, as in the case of the action of alkalies and oxidizing agents; 2, carbon dioxid is split off. In the ammonia elimination the end products are found to consist of the free fatty acids, corresponding to the amino acids from which they are derived, such as acetic, propionic, butyric, valerianic, caproic and a-amino-valerianic acids and the aromatic acids, phenyl-proprionic, hydro-p-cumaric, skatol-acetic and succinic. In the process of splitting off carbon dioxid, two ptomains are formed, namely, pentamethylene-diamin or cadaverin and tetramethylene-diamin or putrescin. By still further oxidation the para-oxy forms of proprionic, acetic and mandelic acids are formed along with paracresol and phenol. From the aromatic products there results phenyl-amino-propionic acid, phenyl-acetic acid, skatol-amino-acetic acid, skatol-acetic acid, skatol-carbonic acid and, finally, skatol and indol. The two latter products are indigo derivatives, and it is due to the presence of these two bodies that the final products have such a fetid odor.

The foregoing gives, in a very brief form, the main action of proteid putrefaction and the most important cleavage products, but as for all the intermediate steps in the reaction and the mechanism of the reactions the reader is referred to "Chemie der Eiweiskörper," a small but comprehensive volume by Cohnheim.

As to the question whether or not free fat can be formed in the action on tissue free from fats and carbohydrates only very limited studies have been made, and those already made are not conclusive as to the evidence they set forth. The first research along this line was the work of Kratter and Lehman on a substance called adipocere which is found in cadavers, after long interment. The investigators showed that the waxy substance was composed of fats and sodium and ammonia soaps, and advanced the theory that the adipocere was formed directly from the muscular tissues. But, as this question is still in dispute, no definite conclusions can be drawn from this particular work, excepting that it showed that fat was produced in the immediate vicinity of proteid matter.

It was thought that Hofman had succeeded in producing fat from proteids, but his work was later shown to have led to wrong conclusions, and so again no definite answer to the question of fat formation can be found. But, as the experiment shows the method of attack of the investigators and the great care that must be exercised in drawing conclusions, it was thought advisable to give a short description of it. Hofman allowed maggots, in which he had previously determined the fat content, to feed on the albuminous part of blood and then again analyzed for fat. It was found that the fat content had increased from seven to eleven times the quantity found before the experiment. Pflüger (*Ergebnisse der Physiol.*, i, 1), in a criticism of the work of Hofman, stated that the formation of fat in this particular case was due to the action of an enormous number of lower fungi, which served as food for the maggots, and which thus gave rise to fatty compounds. Another objection was made, inasmuch as blood contains varying small quantities of fat and a small amount of sugar, and so no definite conclusion could be drawn showing that fat had been formed from proteid free from fat and carbohydrates. Kumawaga (*Ergebnisse der Physiol.*, i, 1) stated that, as the result of feeding dogs on proteids, previously analyzed and found free from fats, fat was not formed.

Similar conclusions have been drawn by Charcau, Gautier and Kaufman (*Arch. d. Physiol.*, v, 8) from their own work, and they state that no fat can be formed from proteid matter free from fat or carbohydrates. From the available literature on the subject it is very evident that as yet no one has succeeded in producing fat from pure proteid matter.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Dec. 14, 1907:

Brown, H. L., asst.-surgeon, granted two months' leave of absence.

Shillock, Paul, surgeon, granted 15 days' leave of absence.

Collin, J. M., asst.-surgeon, granted leave of absence for 2 months.

Ford, J. H., asst.-surgeon, ordered to Fort William Henry Harrison, Mont., for duty.

Snyder, C. R., asst.-surgeon, relieved from duty at Fort William Henry Harrison, Mont., and ordered to Fort McHenry, Md., for duty.

Lavis, W. R., asst.-surgeon, ordered to Fort Mason, Cal., for duty, and as attending surgeon, San Francisco.

Pierson, R. H., asst.-surgeon, relieved from duty at Fort Mason, Cal., and as attending surgeon, San Francisco, and ordered to Fort Niagara, N. Y., for duty.

Winn, R. N., asst.-surgeon, ordered to Jefferson Barracks, Mo., for duty.

Ashburn, P. M., asst.-surgeon, ordered to Fort Banks, Mass., for duty.

Sanford, J. L., contract surgeon, left Fort Barrancas, Fla., on leave of absence for one month.

Baker, C. L., contract surgeon, granted leave of absence for one month.

Leeper, J. F., contract surgeon, relieved from further duty at Fort Duchesne, Utah, and from treatment at the Army General Hospital, Fort Bayard, N. M., and assigned to duty at that general hospital.

Brooks, J. D., contract surgeon, relieved from duty at Fort Meade, S. D., and ordered to Washington, D. C., for annulment of contract.

Harmon, D. W., contract surgeon, granted an extension of ten days to his leave of absence.

Drake, P. G., contract surgeon, ordered to Madison Barracks, N. Y., for temporary duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Dec. 14, 1907:

Flint, J., asst., detached from the Naval Hospital, Canacao, P. I., and ordered to the *Wilmington*.

Fitts, H. S., surgeon, detached from the *Buffalo* and ordered home to wait orders.

Leach, P., surgeon, detached from the *Hancock*, and when discharged from treatment at the Naval Hospital, New York, N. Y., ordered to the Army and Navy General Hospital, Hot Springs, Ark., for treatment.

Nellson, J. L., P. A. surgeon, detached from the Naval Hospital, Newport, R. I., and ordered to the *Buffalo*.

Nash, F. S., surgeon, ordered to the Naval Academy.

Toulon, A. J., asst.-surgeon, ordered to the Naval Hospital, Boston.

Riggs, R. E. P. A., surgeon, detached from the *Texas* and ordered to the Naval Academy.

Hathaway, G. S., asst. surgeon, when discharged from treatment at the Naval Medical School Hospital, Washington, D. C., ordered to the Naval Hospital, Boston, for duty.

Wells, H., medical director, sick leave extended three months.

Biddle, C., surgeon, ordered home to wait orders on completion of examination for promotion.

Moore, J. M., surgeon, detached from the Naval Recruiting Station, Chattanooga, Tenn., and ordered to the *Kansas*.

DeLancy, C. H., P. A. surgeon, detached from the Navy Yard, New York, N. Y., and ordered to Naval Recruiting Station, Chattanooga, Tenn.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Dec. 11, 1907:

Banks, C. E., surgeon, directed to proceed to Tampa Bay Quarantine Station and assume temporary charge.

Rossman, M. J., P. A. surgeon, directed to attend the meeting of the local health officers of the state of New York, and that of the members of the Albany County Medical Society, Jan. 2, 1908.

Gardner, C. H., P. A., surgeon, granted leave of absence for 1 month from Dec. 7, 1907.

Cumming, H. S., P. A. surgeon, leave of absence granted for 1 month from October 1, amended to be effective from Oct. 7, 1907.

Foster, M. H., P. A. surgeon, directed to proceed from Danville, Pa., to Washington, D. C., for special temporary duty.

Herry, T. D., P. A. surgeon, leave of absence granted for 1 month and 10 days from November 1 revoked, and 2 months' leave granted him from Nov. 1, 1907, on account of sickness.

Stimson, A. M., asst.-surgeon, granted leave of absence for 7 days from Dec. 6, 1907, under Paragraph 191, Service Regulations.

Robertson, H. McG., asst.-surgeon, granted leave of absence for 26 days from Dec. 9, 1907.

Hunt, Reid, Chief Division of Pharmacology, Hygienic Laboratory, detailed to attend meeting of the American Association for the Advancement of Science and the Society of Biologic Chemists, to be held in Chicago, Dec. 30, 1907, to Jan. 4, 1908.

Cleaves, F. H., acting asst.-surgeon, leave of absence granted for 12 days from Nov. 15, 1907, amended to read for 11 days only.

Delgado, J. M., acting asst.-surgeon, granted leave of absence for 18 days from Nov. 27, 1907.

Omuf, B., acting asst.-surgeon, granted leave of absence for 24 days from Dec. 8, 1907.

Ransom, S. A., acting asst. surgeon, granted leave of absence for 10 days from Nov. 4, 1907, and excused without pay for 20 days from the expiration of said leave.

Raffetto, M. V., acting asst.-surgeon, granted leave of absence for 3 days from Dec. 5, 1907, under Paragraph 210, Service Regulations.

Stearns, H. H., acting asst.-surgeon, granted leave of absence for 15 days from Dec. 16, 1907.

Wetmore, W. O., acting asst.-surgeon, granted leave of absence for 2 days from Nov. 14, 1907, under Paragraph 210, Service Regulations.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended December 13, 1907:

SMALLPOX—UNITED STATES.

California: Los Angeles, Nov. 16-23, 2 cases; Sacramento, Oct. 1-21, 6 cases; San Francisco, Nov. 17-23, 1 case.
Indiana: Anderson, Nov. 1-30, 10 cases.
Kansas: General, Oct. 1-31, 65 cases.
Louisiana: New Orleans, Nov. 24-30, 1 case.
Massachusetts: Fall River, Dec. 1-7, 1 case.
Michigan: 11 Counties, Oct. 1-27, 31 cases; Grand Rapids, Nov. 24-30, 1 case; Saginaw, Nov. 24-30, 2 cases.
Minnesota: Winona, Nov. 24-30, 1 case.
Ohio: Cincinnati, Nov. 30-Dec. 6, 1 case; Dayton, Nov. 24-30, 2 cases; Sandusky, Nov. 24-30, 1 case.
Oregon: Portland, Oct. 1-31, 6 cases.
Tennessee: Nashville, Nov. 1-7, 16 cases.
Virginia: 3 Counties, Oct. 1-31, 5 cases.
Washington: Tacoma, Nov. 24-30, 2 cases.
Wisconsin: La Crosse, Nov. 24-30, 4 cases.

SMALLPOX—FOREIGN.

Africa: Portuguese East Africa: Lorenzo Marques, Sept. 1-30, 1 case.
Canada: Hamilton, Nov. 1-30, 1 case.
China: Shanghai, Oct. 21-27, 18 deaths (among natives).
Ecuador: Guayaquil, Oct. 27-Nov. 16, 11 deaths.
Egypt: Cairo, Oct. 27-Nov. 4, 1 death.
France: Paris, Nov. 10-16, 6 cases.
Germany: General, Oct. 26-Nov. 9, 2 cases.
India: Madras, Oct. 17-25, 3 deaths.
Italy: General, Nov. 7-21, 21 cases; Catania, Nov. 15-21, 1 death.
Japan: Kobe, Oct. 20-Nov. 2, 9 cases, 3 deaths.
Java: Batavia, Oct. 26-26, 6 cases.
Mexico: Mexico City, Oct. 20-Nov. 2, 2 deaths.
Portugal: Lisbon, Nov. 10-16, 1 case.
Russia: Riga, Aug. 1-31, 1 death; Nov. 10-16, 2 cases.
Spain: Barcelona, Nov. 11-20, 3 deaths.
Venezuela: La Guira, Nov. 10-16, present.

CHOLERA.

India: Calcutta, Oct. 20-26, 75 deaths; Madras, Oct. 17-25, 4 deaths; Rangoon, Oct. 13-26, 2 deaths.
Japan: Kobe, Oct. 28-Nov. 2, 19 cases, 7 deaths; Yokohama, Oct. 20-Nov. 11, 2 cases, 2 deaths.
Manchuria: Dalny, Oct. 20-26, 2 cases, 2 deaths.
Russia: General, Oct. 30-Nov. 11, 581 cases, 304 deaths; Kief, Nov. 6-11, 33 cases, 8 deaths; Minsk, Nov. 11, 1 case.
Russia in Asia: Hassan-Kale, Nov. 4-10, 5 cases, 5 deaths; Khorassan, Nov. 9, 1 death (in the Erzeroum district).

YELLOW FEVER.

Brazil: Manaos, Oct. 29-Nov. 16, 4 deaths.
Cuba: Matanzas Province: Cienfuegos, Dec. 4, 1 case; Santa Clara Province: Remedios, Dec. 4, 1 case; Santa Clara, Dec. 4-5, 1 case, 1 death.
Nicaragua: Managua, Nov. 2-9, present.
West Indies: Trinidad, Nov. 9, 1 case, 1 death.
Venezuela: Caracas, Oct. 23-Nov. 23, 275 cases, 5 deaths (estimated); La Guira, Nov. 10-16, present.

PLAGUE—UNITED STATES.

California: San Francisco, Dec. 4-5, 3 cases, 2 deaths.

PLAGUE—FOREIGN.

Africa: Tunis, Oct. 20-Nov. 9, 7 cases, 2 deaths; Bona, Nov. 9-12, 2 cases.
India: General, Oct. 20-26, 12,470 cases, 8,785 deaths; Calcutta, Oct. 20-26, 4 deaths; Madras, Oct. 19-25, 1 death; Rangoon, Oct. 13-26, 31 deaths.
Japan: Nagasaki, Nov. 10, present on island in vicinity; Osaka, Oct. 20-26, 30 cases, 19 deaths.
Manchuria: Kaiping, Oct. 10-19, 13 cases, 12 deaths.
Peru: Callao, Oct. 24-Nov. 6, 1 case, 1 death; Ferrenafe, 2 cases, 4 deaths; Lima, 6 cases, 4 deaths; Paita, 7 cases, 6 deaths; San Pedro, 11 cases, 6 deaths; Trujillo, 6 cases, 5 deaths.
Straits Settlements: Singapore, Oct. 20-26, 2 deaths.
Zanzibar: Oct. 17, 1 case.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Rhode Island State Board of Health, Room 313, State House, Providence, January 2-3. Secretary, Dr. Gardner T. Swarts, Providence.

Minnesota State Board of Medical Examiners, St. Paul, January 2-4. Secretary, Dr. W. S. Fullerton, 215 American National Bank Building, St. Paul.

Utah State Board of Medical Examiners, Salt Lake City, January 6. Secretary, Dr. R. W. Fisher, Salt Lake City.

Arizona Board of Medical Examiners, Phoenix, January 6-7. Secretary, Dr. Ancil Martin, Phoenix.

Colorado State Board of Medical Examiners, Denver, January 7. Secretary, Dr. S. D. Van Meter, 1723 Tremont St., Denver.

Washington State Medical Examining Board, Spokane, January 7. Secretary, Dr. C. W. Sharples, Seattle.

Oregon Board of Medical Examiners, Portland, January 7-9. Secretary, Dr. Byron E. Miller, The Dekum Building, Portland.

North Dakota State Medical Examining Board, Grand Forks, January 7-9. Secretary, Dr. H. M. Wheeler, Grand Forks.

Vermont State Board of Medical Registration, State House, Montpelier, January 7-9. Secretary, Dr. W. Scott Nay, Underhill.

South Dakota State Board of Medical Examiners, Mitchell, January 8-9. Secretary, Dr. H. E. McNutt, Aberdeen.

District of Columbia Board of Medical Supervisors, Washington, January 9-13. Secretary, Dr. George C. Ober, Washington.

New Mexico Board of Health and Medical Examiners, Santa Fe, January 13. Secretary, Dr. J. A. Massie, Santa Fe.

Arkansas Homeopathic Board of Medical Examiners, Little Rock, January 14. Secretary, Dr. V. H. Hallman, Hot Springs.

Arkansas Eclectic Board of Medical Examiners, Little Rock, January 14. Secretary, Dr. A. J. Widener, Little Rock.

New Hampshire State Board of Medical Examiners, Concord, January 14-15. Regent, Mr. H. C. Morrison, Concord.

Wisconsin Board of Medical Examiners, Plankinton Hotel, Milwaukee, January 14-16. Secretary, Dr. J. V. Stevens, Jefferson.

Louisiana October Report.—Dr. F. A. LaRue, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, Oct. 15-16, 1907. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 27, of whom 25 passed and 2 failed. The following colleges were represented:

PASSED.			
College.	Year Grad.		Per Cent.
Louisville Med. Coll.	(1906) 78.6;	(1907)	86.4
Hospital Coll. of Med., Louisville	(1905) 94.6;	(1907)	80-84
University of Louisville	(1907) 76, 80.6,		86.6
Tulane University of Louisiana		(1907)	81.6
Flint Med. Coll.		(1907)	91
Baltimore University		(1904)	75
Harvard Med. School		(1898)	94.6
St. Louis University		(1906)	93
Memphis Hosp. Med. Coll.	(1899) 85.6;	(1900) 75; (1907)	75, 86.4
Chattanooga Med. Coll.		(1904)	85.2
Meharry Med. Coll.	(1906) 76.4;	(1907)	88
Baylor University		(1907)	78.8
University of Nashville		(1907)	88.2, 90
University of Virginia		(1905)	76.4
University of Paris, France		(1892)	86.4

FAILED.	
Flint Med. Coll.	(1905) 71.2
Memphis Hosp. Med. Coll.	(1893) 63.2

Connecticut November Report.—Dr. Charles A. Tuttle, secretary of the Connecticut State Medical Examining Board, reports the written examination held at New Haven, November 12-13, 1907. The number of subjects examined in was 12; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 20 of whom 15 passed and 5 failed. The following colleges were represented:

PASSED.			
College.	Year Grad.		Per Cent.
Yale Medical School	(1907) 84.8,	83.9,	88.1
Johns Hopkins Med. School	(1906) 84;	(1907)	90.3
College of P. and S., Baltimore		(1907)	75
Baltimore Med. Coll.		(1907)	79.4
Dartmouth Med. Coll.	(1890) 85.2;	(1906)	87.1
College of P. and S., New York		(1906)	90
University Medical College, New York City		(1893)	76.6
University of Pennsylvania		(1907)	82.1
University of Vermont	(1906) 80.7;	(1907)	78.6
Laval University, Quebec		(1901)	79.5

FAILED.	
Baltimore Med. Coll.	(1906) 67.9, 69.2
Maryland Med. Coll.	(1907) 65.6
University of Naples	(1871) 59.4; (1905) 53.7

Georgia November Report.—Dr. E. R. Anthony, secretary of the Regular Board of Medical Examiners of Georgia, reports the written examination held at Macon, November 13, 1907. The number of subjects examined in was 10; total number of

questions asked, 50; percentage required to pass, 80. The total number of candidates examined was 8, all of whom passed. One reciprocal license was granted at this examination. The following colleges were represented:

PASSED.	Year Grad.	Per Cent.
College.		
University and Bellevue Hosp. Med. Coll.	(1902)	86
University of the South	(1907) 80, 80, 82, 84, 86,	87
Baylor University	(1905)	82

LICENSED THROUGH RECIPROCITY.	Year Grad.	Reciprocity with.
Friedrich-Alexanders Universität, Germany	(1869)	Missouri

West Virginia November Report.—Dr. H. A. Barbee, secretary of the West Virginia State Board of Health, reports the written examination held at Clarksburg, November 12-14, 1907. The number of subjects examined in was 9; total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 22 of whom 15 passed and 7 failed. The following colleges were represented:

PASSED.	Year Grad.	Per Cent.
College.		
Howard University	(1907)	81, 84
College of P. and S., Baltimore	(1906) 82; (1907) 84, 86,	88, 88
Atlantic Med. Coll., Baltimore	(1907)	83
Maryland Med. Coll.	(1905) 80; (1907)	89
Baltimore Med. Coll.	(1907)	85, 95
Jefferson Med. Coll.	(1907)	92
University of Nashville	(1907)	83
University Coll. of Med., Richmond	(1907)	80

FAILED.		
Hospital Coll. of Med., Louisville	(1907)	74
Kentucky School of Med.	(1905) 66; (1907) 74, 74, 74,	74
Baltimore University	(1905)	69

The questions asked were as follows:

OBSTETRICS AND GYNECOLOGY.

1. How is the placenta formed? Give its functions. 2. What is the function of the ovary? What is the corpus luteum? 3. In a case of threatened abortion. 4. Give process of normal labor and explain value, if any, of intermittent character of pains. 5. Instruct nurse in the case of new-born infants. 6. Would you use an anesthetic in labor. If so, which one, and give reasons. 7. How would you manage a case of impacted breech presentation? 8. Name some of the evil effects of prolonged labor. 9. Describe and give technic of your primary operation for perineal laceration. 10. What means would you use to prevent ophthalmia neonatorum?

MATERIA MEDICA AND THERAPEUTICS.

1. What are the different methods of administering medicines? 2. Define a laxative, cathartic, diuretic, diaphoretic, sedative, hypnotic and stimulant, with examples. 3. What is an opsonin? 4. What is urotropin, veronal? Doses, indications. 5. What are the preparations of opium? 6. What are the preparations of mercury? 7. What are the preparations, doses and physiologic action of belladonna? 8. What are the therapeutic uses of cold water? Hot water? 9. Name three new drugs and their uses. 10. Write a prescription for enterocolitis.

SURGERY.

1. Give diagnosis and treatment of mammary carcinoma. 2. Describe immediate and secondary hemorrhage. Give best prevention and curative treatment of each. 3. Define necrosis and give cause and surgical treatment. 4. Give differential diagnosis between chancre, chancroid and herpes preputialis. 5. Classify burns and give treatment. 6. Dislocation: What are the obstacles to reduction? How would you reduce backward dislocation of the forearm? 7. Fractures: What is the most important classification? In what fractures is crepitus absent? Give treatment of lower third of leg. Describe and treat a Colles's fracture. 8. Define and treat hydrocele. Varicocele. 9. Reduce dislocation of hip, naming variety. 10. Define embolism. Infarction.

PRACTICE OF MEDICINE AND PEDIATRICS.

1. What do you understand by the terms physical and rational signs, period of incubation and sequels of disease. 2. Typhoid fever: Give cause, pathologic anatomy and treatment. 3. Give cause, symptoms, prognosis and treatment of chronic parenchymatous nephritis. 4. What methods are employed in making an examination of the heart? Describe the heart sounds and tell where they are heard in normal condition. 5. Give cause, symptoms, prognosis and treatment of cerebral hemorrhage. 6. What is vertigo? To what is it due? Give treatment. 7. Diphtheria: Give cause, prophylaxis, treatment and sequelæ. 8. Diagnose, treat and give cause of acute diarrhea in an infant. 9. Give symptoms, diagnosis and treatment of cholera infantum and ileocolitis. 10. Diagnose and treat a case of croupous pneumonia in a child two years old.

HISTOLOGY AND PHYSIOLOGY.

1. Describe the formation of bone, of epithelium, of mucous membrane. 2. What character of membrane invests the liver, the heart? 3. Describe the hepatic circulation, the fetal circulation. 4. What effect will a severe hemorrhage have on the quality of the blood. 5. Give origin, course and distribution of pneumogastric nerve. Fifth nerve. 6. Describe the process of respiration, naming principal organs, frequency. 7. Give composition of saliva, gastric juice, bile, their reaction and offices. 8. Describe function of kidneys, give amount, color, specific gravity of urine, tests for bile, sugar and albumin. 9. Name the organs of reproduction in the male, female. What is fecundation, where does it occur? 10. What is the effect of alcohol on brain tissue, hepatic tissue, the stomach.

CHEMISTRY AND MEDICAL JURISPRUDENCE.

1. Give test for arsenic. Explain the action of the antidote for arsenic poisoning. 2. Give composition of common lye. Explain the action of the antidote in poisoning by it. 3. Give toxicology of opium and explain the action of its antidote. 4. What acids and bases in formation of HgCl? How does salivation occur? 5. What is reaction of normal urine? What chemical change in the urine of cystitis? How correct this? 6. Would you make acid or alkaline application to burns? Why? 7. Why is there pain in gastric ulcer? Explain the chemical condition of stomach and why eating relieves pain? 8. What is a hermaphrodite? What complication of its social status? 9. What is superfetation? What bearing on legitimacy? 10. Differentiate between a case of hysteric and simple dementia.

BACTERIOLOGY AND HYGIENE.

1. What is a giant cell? Give characteristics. 2. Describe syphilitic gummata. 3. Give the function and products of bacteria. 4. Define and illustrate bacilli, micrococci, spirilla. 5. What is the special cause of the croupous inflammation found in diphtheria. 6. Differentiate between endemic and epidemic diseases. 7. What is the temperature of tepid water, of hot water, or boiling water? 8. What in your judgment is to be preferred in vaccination, animal or humanized lymph, and why? 9. What are some of the dangers of the cold bath? 10 How should an inspection of milk be conducted?

ANATOMY AND EMBRYOLOGY.

1. Describe the articular extremities of the humerus. 2. Beneath what points on the anterior chest surface are the cardiac valves? 3. Give the branches of the external carotid artery. 4. Name the structures to be divided in operating for strangulation of an oblique inguinal hernia. 5. Give the origin and distribution of the internal and external jugular veins. 6. Name the different parts of the alimentary canal in their order. 7. Give the names of the tenth nerve: also origin and distribution. 8. What muscles are affected by paralysis of the third nerve? 9. What changes take place in the hepatic circulation of the fetus at birth. 10. At what period of embryonic life does the development of the spinal axis commence and from what layer of the blastoderm is it formed?

SPECIAL PRACTICE.

1. What is meant by percussion, auscultation, menstruation, vocal fremitus and vocal resonance. 2. Give location of areas in which the heart sounds are heard most distinctly. 3. Tracheotomy: Describe it. What condition requires its performance? 4. Otitis media: Give symptoms and treatment. 5. Acute rhinitis: Give symptoms and treatment. 6. Differentiate between diphtheria and membranous pharyngitis. 7. Ophthalmoscope: Describe manner of using it and some of the diseases which can be diagnosed by it. 8. Glaucoma: Symptoms and treatment. 9. Hemiplegia: Give causes and location of seat of trouble. 10. Neuralgia: Give treatment.

Marriages

CARL BRADEN DAVIS, M.D., to Miss Elsie Booth, both of Chicago, December 10.

W. T. LITTLE, M.D., to Miss Agnes E. Foust, both of Benton, Ky., November 28.

J. H. MOLINELLI, M.D., to Miss Mary Sordoni, both of Pittston, Pa., November 12.

ROSCOE Z. G. CROSS, M.D., to Miss Gertrude E. Jones, both of Baltimore, November 27.

MAHLON G. MILLER, M.D., to Miss Helen B. Laubach, both of Siegfried, Pa., November 29.

JOHN HILL TUCKER, M.D., to Miss Rebecca Butler, both of Henderson, N. C., December 18.

WALTER W. COVELL, M.D., to Miss Daisy Jenkins, both of Sutherland, Neb., November 27.

LEWIS KERN, M.D., Kokomo, Ind., to Mrs. Martha Jane Hodson of Greentown, Ind., December 5.

LOUIS S. WEAVER, M.D., York, Pa., to Miss Romayne Marker of Ligonier, Pa., at York, December 6.

BENJAMIN F. SYMAN, M.D., Denver, Colo., to Miss Alice Carolyn Jacob of Chicago, November 10.

SCHUYLER NICHOLS, M.D., Herington, Kan., to Miss Capitola Collier of Wichita, Kan., November 28.

RALPH C. JAMES, M.D., Hibbing, Minn., to Miss Phoebe Clune of Minneapolis, Minn., November 19.

LOUIS LIVINGSTON SEAMAN, M.D., to Mary Stuart Huntington, both of New York City, December 12.

JAMES GRAY CARR, M.D., Chicago, to Miss Esther Margaret Foxeroft of Cambridge, Mass., December 18.

DAVID ALBERT EWING, M.D., Seattle, Wash., to Miss Minnie Adele Wiley of San Francisco, November 21.

EDWIN A. GERHART, M.D., to Mrs. Edna Campbell, both of Billings, Mont., at Bozeman, Mont., December 2.

VICTOR J. GANGAWERE, M.D., Rittersville, Pa., to Miss Cora Weirbach of Pleasant Valley, Pa., November 28.

BENJAMIN P. BRODIE, M.D., Detroit, Mich., to Mrs. Austin Tubbs of San Francisco, at Washington, D. C., recently.

DANIEL L. GROVES, M.D., Clarksburg, W. Va., to Miss Katherine Lee Montgomery of Fredericksburg, Va., December 4.

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Deaths

Abram Miller Carpenter, M.D. University of Louisville (Ky.) Medical Department, 1854; for 49 years a member of the faculty of the Keokuk (Iowa) Medical College, St. Louis College of Physicians and Surgeons and Marion-Sims-Beaumont Medical College of St. Louis, and vice-president of Barnes Medical College; died at the Centenary Hospital in that city, December 3, after an operation on the intestines, aged 73.

John Joseph Scott, M.D. University of Georgia, Medical Department, Augusta, 1856; a member of the American Medical Association; surgeon in the Confederate service during the Civil War; formerly president of the Shreveport Medical Society and state vice-president of the Medicolegal Society of New York; died at his home in Shreveport, La., a few hours after amputation of the leg, December 2, aged 70.

John Fay, M.D. Jefferson Medical College, Philadelphia, 1835; a member of the American Medical Association; surgeon of the One Hundred and Twentieth Pennsylvania Volunteer Infantry during the Civil War, and thereafter surgeon of the Pennsylvania System at Altoona, Pa., and chief of staff of the Altoona Hospital; died at his home in that city, December 6, after a long illness, aged 77.

Otto C. Quitmeyer, M.D. Hamline University College of Medicine, Minneapolis, 1892; a member of the American Medical Association; surgeon-in-charge of Lake View Hospital, Parker's Prairie, Minn., and local surgeon for the Minneapolis, St. Paul & Sault Ste. Marie Railway; died in the hospital, December 1, from pneumonia, after an illness of eleven days, aged 31.

George Hamilton, M.D. Washington University, Medical Department, St. Louis, 1879; a member of the American Medical Association; county physician of Conejos County, Colo., and health officer, and local surgeon of the Denver & Rio Grande Railroad at La Jara, Colo.; died at his home, November 30, from pneumonia, after an illness of three days, aged 56.

Columbus Barlow, M.D. Cincinnati College of Medicine and Surgery, 1857; a member of the American Medical Association; councilor of the Illinois Eighth District Medical Society; treasurer of the Crawford County Medical Society; president of the Æsculapian Society of the Wabash Valley; died at his residence in Robinson, Ill., October 8, aged 60.

I. Pierce Oberndorfer, M.D. College of Physicians and Surgeons in the City of New York, 1874; of New York City; a member of the American Medical Association; dermatologist to the outdoor department of the German Hospital, New York City; died at a sanitarium in that city, December 1, after an operation for appendicitis, aged 55.

Thomas Hobley, M.D. Toronto University Medical Faculty, 1875; Trinity Medical College, Toronto, 1875; Medical Department, Victoria College, Toronto, 1875; a member of the Ontario Medical Association, and coroner of the County of Essex; died at his home in Amherstburg, Ont., December 8, after an illness of a week, aged 57.

Warren E. Hoover, M.D. Miami Medical College, Cincinnati, 1871; a member of the Ohio State and Montgomery County medical societies; for two years a member of the board of education of Dayton; an assistant surgeon during the Civil War; died suddenly at his home in Dayton, December 5, from heart disease, aged 69.

Thomas Smith Grimke, M.D. Medical College of the State of South Carolina, Charleston; surgeon in the Confederate service during the Civil War, and for nearly 50 years a practitioner of Charleston; died at his home in that city, November 30, from senile debility, after a short illness, aged 73.

Walter Scott Hand, M.D. Cleveland Medical College, Medical College of Western Reserve University, Cleveland, Ohio, 1853; for 50 years a resident of Milwaukee, Wis., died at the home of his daughter in that city, November 7, from angina pectoris, after an illness of three weeks, aged 82.

Francis Marion Crane, M.D. Rush Medical College, Chicago, 1892; a member of the American Medical Association and vice-president of the Pike County (Ill.) Medical Society; died at his home in Pittsfield, Ill., from heart disease, December 6, after a long illness, aged 45.

Henry C. Archibald, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1881; a veteran of the Civil War; assistant to the chief surgeon, Samaritan Hospital, Philadelphia; died at his home in Philadelphia, December 5, from kidney disease, aged 65.

Joseph A. Catlin, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1874; formerly a practitioner of Chestertown, Md., and Baltimore; died suddenly on a Pennsylvania train between New York and Philadelphia, December 4, from heart disease, aged 58.

Hamilton P. Howard, M.D. University of Virginia, Department of Medicine, Charlottesville, 1889; for two years assistant demonstrator of anatomy at his alma mater; died at his home in Bedford City, Va., December 2, from nephritis, after a short illness, aged 42.

Charles Nelliton Rooker, M.D. Central College of Physicians and Surgeons, Indianapolis, 1884; of Pocatello, Idaho; a veteran of the Spanish-American War; died at Blackfoot, Idaho, from locomotor ataxia, December 5, after an illness of six months, aged 49.

Joseph Bettes, M.D. College of Physicians and Surgeons of the Province of Quebec, 1839; said to have been the oldest practitioner in the province of Quebec; one of the founders of Somerset; died at Arthabaska, Que., November 7, from senile debility, aged 93.

William A. Gott, M.D. University of Pennsylvania, Philadelphia, 1852; assistant surgeon and surgeon of the Twenty-fifth Wisconsin Volunteer Infantry during the Civil War; died at his home in Viroqua, Wis., December 1, after a long illness, aged 77.

Samuel A. Nunn, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1853; of Belton, Texas; a surgeon in the Confederate service throughout the Civil War; died at the home of his daughter in Crockett, Texas, December 5, aged 78.

James Albert Oliver, M.D. Niagara University, Medical Department, Buffalo, N. Y., 1896; a member of the American Medical Association; physician of Jefferson County, Ohio; died at his home in Steubenville, from erysipelas, December 1, aged 55.

Oliver Dwight Norton, M.D. Berkshire Medical College, Pittsfield, Mass., 1845; for more than 60 years a practitioner of Cincinnati; a surgeon throughout the Civil War; died at his home in Cincinnati, November 28, from senile debility, aged 86.

Freeda M. Lankton, M.D. University of Iowa, College of Homeopathic Medicine, Iowa City, 1888; a member of the staff of the Methodist Hospital, Omaha, Neb.; died at her home in Omaha, December 5, after an illness of three days, aged 49.

Samuel Franklin Thomas, M.D. University of Maryland School of Medicine, Baltimore, 1867; a Confederate veteran; for several years health officer of Frederick, Md.; died suddenly from heart disease, at his home, November 22, aged 66.

Henry Lincoln Frush, M.D. Northwestern University Medical School, Chicago, 1906; a member of the American Medical Association; died at Watrous, N. M., November 2, from tuberculosis of the bowels, after an illness of two years, aged 28.

Robert O. McMaster, M.D. Starling Medical College, Columbus, Ohio, 1875; who established the first private hospital in Wheeling, W. Va.; died at his home in that city, December 6 from cancer of the stomach, after a long illness, aged 55.

Lewis Mayo, formerly county physician, coroner, treasurer and probate judge of Benton County, Minn., and state senator in 1876; died at his home in Sauk Rapids, August 25, from arteriosclerosis, after an illness of two years, aged 79.

William B. Carswell, M.D. Louisville (Ky.) Medical College, 1888; a member of the Medical Association of Georgia and Pulaski County Medical Society; died at his home in Cochran, Ga., August 10, from cerebral hemorrhage, aged 44.

Walter John Norfolk, M.D. Medical School of Harvard University, Boston, 1873; for many years a practitioner of Boston; died at his home in Plainfield, N. J., November 25, after an operation for disease of the intestines, aged 59.

John Kimball Matthews, a practitioner of Putnam County, Ohio, from 1844 to 1854; a veteran of the Civil War; died at his home in Ottawa, Ohio, November 13, from senile debility, after an illness of six months, aged 83.

Charles A. Dorman, M.D. New York Homeopathic Medical College and Hospital, New York City, 1869; a veteran of the Civil War; died suddenly at his home in New Haven, Conn., December 5, from heart disease, aged 64.

Washington A. Eagle, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1857; for 50 years a practitioner of Hartford, Mich; died at his home, November 27, from senile debility, aged 81.

George Herbert Smith, M.D. Bellevue Hospital Medical College, New York City, 1865; a veteran of the Civil War; mayor

of Holyoke, Mass., in 1896; died at his home in that city, August 16, from nephritis, aged 67.

Asahel Steward, M.D. Bellevue Hospital Medical College, New York, 1869; of Delta, Pa.; died December 5, from cerebral hemorrhage due to injuries received in a runaway accident six days before, while making a professional call.

Otto H. Dogge, M.D. Missouri Medical College, St. Louis, 1883; for many years a practitioner of San José, Cal.; died suddenly at his home in San Francisco, November 29, from heart disease, aged 62.

James E. Kirkpatrick, M.D. New York University Medical College, New York City, 1864; for 25 years a practitioner of Dallas, Ore.; died at the home of his son in Los Angeles, Cal., November 16, aged 81.

John S. Cleeland, M.D. Cleveland (Ohio) University of Medicine and Surgery, 1885; of Pittsburg, Pa., was struck by a freight train at Steubenville, Ohio, and instantly killed, December 8, aged 57.

Harry A. Cummings, M.D. Hahnemann Medical College and Hospital of Chicago, 1901; died at his office in Muskegon, Mich., November 29, from the effects of an overdose of chloroform, aged 30.

Silas A. Boynton, M.D. Homeopathic Hospital College, Cleveland, Ohio, 1862, and later a member of the faculty of the college; died at his home in Cleveland, December 2, from pneumonia, aged 72.

Putnam W. Hoyle, M.D. Atlanta (Ga.) Medical College, 1888; a Confederate veteran; died at his home in Columbus, Ga., November 29, from heart disease, after an illness of one year, aged 64.

Godfevi Madore, M.D. Toronto University Medical Faculty, 1876; of Pelly, Yukon; for several years surgeon of the Northwest mounted police; died at Prince Albert, from heart disease, recently.

Henry W. Brown, M.D. New York University Medical College, New York City, 1848; once president of the Texas State Medical Association; died at his home in Waco, November 26, aged 80.

Thomas G. J. Burd, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1874; died suddenly at his home in Flemington, N. J., December 2, from heart disease, aged 61.

Frederick H. Stevens, M.D. Vermont Academy of Medicine, Castleton Medical College, 1851; of Caldwell, N. Y.; died at the home of his daughter in Chicago, December 1, aged 82.

John Henry Wroughton, M.D. Chicago Medical College, 1878; of Houston Heights, Texas; died at Muscogee, Okla., recently from cerebral hemorrhage, after an illness of six months.

George W. McClanahan, M.D. American Medical College (Eclectic), St. Louis, 1881; of Idaho Springs, Colo.; died in Denver, October 10, from cerebral thrombosis, aged 47.

Julia Meiklejohn, M.D. Northwestern University, Woman's Medical School, Chicago, 1895; of Clinton, Wis.; died suddenly, August 16, while making a professional call.

John H. Penner, M.D. Louisville, 1854-1856; died at his home in Lawrenceville, Ill., November 2, from disease of the lungs, after an illness of three months, aged 75.

John F. Donnelly, M.D. Jefferson Medical College, Philadelphia, 1856; of Kirkland, Pa.; died suddenly in Philadelphia, December 4, from heart disease, aged 65.

John A. Lockard, M.D. Bellevue Hospital Medical College, New York City, 1896; died at his home in Gothenburg, Neb., from pulmonary tuberculosis, May 10.

Archibald E. Franklin, M.D. Western University, Medical Department, London, Ont., 1894; formerly of Chicago; died recently in Brockville, Ont., aged 35.

Edward Francis Birckhead, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1843; died at his home in Rivanna, Va., July 28, aged 87.

James E. Pearson, M.D. Medical College of Alabama, Mobile, 1888; died suddenly at his home in Sylacauga, Ala., December 1, from heart disease, aged 43.

George Calloway, M.D. Medical College of Ohio, Cincinnati, 1873; died at his home in Tuscola, Ill., in October last from disseminated sclerosis, aged 63.

John A. Hewitt, M.D. Trinity Medical College, Toronto, Ont., 1888; formerly of Morriston, Ont.; died suddenly at Etiomani, Sask., November 27, aged 40.

Henry C. Ottmer, M.D. Washington University, Medical Department, St. Louis, 1856; died at his home in Healdsburg, Cal., July 11, aged 76.

David E. Johnston, M.D. University of Georgia, Medical Department, Augusta, 1868; died at his home in Mobile, Ala., August 15, aged 64.

Archibald James H. Lankford, M.D. University of Maryland, School of Medicine, Baltimore, 1860; died at his home in Tyaskin, Md., December 6.

William H. Kirksey, M.D. Medical Department, University of Nashville, Tenn., 1874; died at his home in Hearne, Texas, July 26, aged 62.

Arthur H. Pohl, M.D. National Medical University, Chicago, 1904; died at his home in Seattle, Wash., November 18, after a short illness.

William G. Russell, M.D. Long Island College Hospital, Brooklyn, N. Y., 1871; died at his home in Brooklyn, November 22, aged 59.

Theodore N. Stafford, M.D. Detroit (Mich.) College of Medicine, 1897; died at his home in New Troy, Mich., November 30, aged 35.

Thomas Malcolm, M.D. Halifax (N. S.) Medical College, 1878; died at his home in Fogo, Newfoundland, recently, aged 54.

H. M. Stewart, for many years a practitioner of McLennan County, Texas; died at his home in West, Texas, October 17, aged 63.

Rueleff D. Haley, M.D. (License, Mo., 1883); died at his home in St. Louis, November 20, from senile debility, aged 75.

William R. Capehart, M.D. New Orleans (La.) School of Medicine, 1859; died at his home in Avoca, N. C., July 30.

Redford W. Fisk, M.D. Eclectic Medical Institute, Cincinnati, 1878; died at his home in Quincy, Ill., July 26, aged 60.

Society Proceedings

COMING MEETINGS.

American Association of Anatomists, Chicago, Dec. 26-27.
Western Surgical and Gyn. Assn., St. Louis, Mo., Dec. 30-31.

NATIONAL LEGISLATIVE CONFERENCE.

Held in Chicago, Dec. 10-12, 1907.

The Chairman, DR. CHARLES A. L. REED, Cincinnati, presiding.

The first session of the conference of the Committee on Medical Legislation and the National Legislative Council of the American Medical Association, held in Chicago, was called to order at 10 o'clock, December 10, by the chairman. On roll call reports were received from the following states, either by letter or from the delegates present: Alabama, Arkansas, District of Columbia, Indiana, Illinois, Iowa, Kansas, Kentucky, Maine, Massachusetts, Minnesota, Mississippi, Nebraska, North Carolina, North Dakota, Ohio, Pennsylvania, Tennessee and Wisconsin. Reports were also received from representatives of the three government services.

The Legislative Needs of the Time.

The chairman then delivered his annual address to the conference, discussing the work of the preceding year and the plans for the future. He recommended the approval of the Army medical reorganization bill (S. 1539) now before Congress. This bill has been recommended by the surgeon general, endorsed by the general staff, approved by the Secretary of War, urged by the President in his annual message, passed by the Senate and approved by the House committee on military affairs. At the last session, however, it was excluded from consideration through the tacit opposition of the speaker of the House, who refused to allow the bill to be considered. The chairman recommended that the importance of this question be brought to the attention of the entire profession and that the speaker of the House be urged to allow the reorganization of the medical department of the Army, in order that our soldiers may be efficiently protected against disease.

The three bills prepared by Surgeon-General Rixey of the United States Navy, providing for a corps of female nurses in the hospitals and hospital ships; for dental surgeons in the

Navy, and for an increased hospital corps in the Navy, were discussed and endorsed. The chairman also referred to the conference the resolutions regarding rabies, adopted at the last session by the House of Delegates of the American Medical Association.

Uniform Legislation Needed in Different States.

The chairman then took up the discussion of state legislation, emphasizing the necessity of uniform state legislation for the regulation of the practice of medicine, as well as for a control of public health and for pure food and drugs. He emphasized the necessity of assembling a council of representatives of states to consider uniform legislation along these as well as other lines.

National Department of Health Urged.

The chairman also discussed the establishment of a national department of public health, giving the history of the movement and stating that agitation in favor of this plan is now in the hands of the committee of one hundred of the American Association for the Advancement of Science, with which committee the American Medical Association, as well as the National Council on Medical Legislation, is cooperating.

The report of the secretary was then read, after which the various sections in these two reports were referred to the appropriate committees for consideration.

More Medical Aid for Navy Wanted.

After the appointment of committees, the Council adjourned until the afternoon, when the naval medical reorganization bills were taken up and discussed. These bills were approved by the Council and the auxiliary committee was instructed to endeavor to secure their adoption by Congress.

The Carroll and Lazear Pension Bills.

The committee on special national legislation, of which Dr. A. S. von Mansfelde of Nebraska was chairman, reported in favor of the Carroll-Lazear pension bills now before Congress, granting a pension of $125 a month each to the widows of Dr. James Carroll and Dr. Jesse W. Lazear.

The committee recommended that the Council endorse the policy of enlarging the scope of the United States Public Health and Marine-Hospital Service and that this department be placed in charge of the control and regulation of rabies.

Cooperation on Health Problems.

At the Wednesday morning session, the federal and state regulation of public health was taken up, the committee, of which Dr. H. C. Sharp of Indiana was chairman, presenting a report emphasizing the urgent and growing necessity of the further regulation of public health and of increased cooperation between federal, state and municipal sanitary authorities for the prevention of contagious disease.

Education of the Public.

The committee also endorsed legislation providing for publications, lectures and exhibits along sanitary lines for the education of the public; that steps be taken to preserve the purity of the waterways of the country; that municipal and county sanitary authorities should be chosen directly by the people and should be required to devote their entire time to this work. The committee also recommended the assembling of all national public health agencies under the auspices of a single national public health service.

The Alabama Public Health System.

Dr. W. H. Sanders of Alabama gave an address on the relation between federal and state control of public health, outlining the plan followed in Alabama, in which state each county society is the board of health for its respective county, and the state medical association is the board of health for the state. Dr. Sanders explained in detail the advantages of this plan and recommended its general features.

Need of Establishing Practice Legislation Standards.

At the afternoon session Dr. Arthur D. Bevan, chairman of the Council on Medical Education, delivered an address on the subject of uniform legislation for the regulation of the practice of medicine. The discussion on this subject was general, and the consensus of opinion of the conference was that the present lack of uniformity in state legislative matters is highly undesirable and that no attempt should be made to alter existing laws, except in case of necessity, until a sufficiently exhaustive study has been made of conditions to enable us to determine exactly what legislation will be permanent and salutary.

Dr. Roberts introduced a resolution specifying the requirements of an ideal medical practice act, which, after discussion, was referred to the committee on medical legislation, with instructions to report to the House of Delegates at the next meeting of the American Medical Association.

The Army Medical Reorganization Bill.

The committee on army medical reorganization then reported through its chairman, Dr. C. Z. Aud of Kentucky, endorsing the medical reorganization bill. This report was discussed by Major E. L. Munson of the United States Army and by Dr. G. E. Seaman of Wisconsin, after which the report of the committee was approved and the secretary was instructed to communicate the action of the Council to members of Congress, and particularly to members of the committees of the Senate and House having charge of these bills.

Uniform Vital Statistics.

At the final session on Thursday morning the report of the committee on uniform federal and state legislation regarding vital statistics was reported by the chairman, Dr. E. J. Lutz of Kansas, after which the conference was addressed by Dr. Cressy L. Wilbur, chief statistician of the bureau of vital statistics of the Census Department. Dr. Wilbur outlined the history of the movement for uniform vital statistics in this country, dwelling on the slight progress that had been made and urging the necessity of uniform laws on the part of the different states which would be in harmony with the Census Department. The report of the committee and the address of Dr. Wilbur were discussed by Drs. Lutz, and by Drs. Heckard and Drake of the Chicago board of health, Drs. Sanders, Goddard and Wilson. The report was referred to the committee on conclusions and plans of action.

Pure Food Needs.

Dr. A. B. Cooke of Tennessee then presented a report from the committee on uniform legislation on pure food and drugs, approving of the resolution presented by Dr. Mansfelde, regarding the necessity of national legislation to regulate the sale of wood alcohol. The committee also recommended state legislation to enforce better sanitary conditions in factories, shops, dairies and other places where food products are manufactured and handled. The committee also approved of the recommendation of Dr. A. B. Cooke on the desirability of regulating the advertising of food and drug products in states which have or may have a pure food and drug law. The committee also declared the enactment of uniform food and drug laws of the various states to be highly desirable and recommended that a standard law patterned after the federal law be drafted by the Committee on Medical Legislation of the American Medical Association and submitted to the members of the Legislative Council in those states which had not yet passed such a law. After discussion the report was referred to the committee on conclusions and plans of action.

Physical Examination of Railroad Employés.

Dr. G. E. Seaman, of Wisconsin, presented the report of the committee on new measures, endorsing a resolution calling for federal legislation regarding physical examination of railway employés having to do with the operation of railroad trains and recommending that the Committee on Medical Legislation appoint a special committee to draft such a bill and arrange for its presentation to Congress.

The last order of business was the report of the committee on conclusions and plans of action, to which had been referred the reports of the various committees. The committee approved of the various committee reports and recommended their adoption by the Council. This report was adopted, carrying with it the adoption of the various reports referred to, after which the conference adjourned *sine die*.

Uniformity in Laws of Various States.

Probably the most important action taken was the resolution to provide for the establishment and organization of a committee of forty-six members, one from each state, to arrange for a conference of representatives of the different states to consider and frame uniform legislation on subjects of mutual interest to the states. The list of subjects suggested includes many other matters besides those of direct interest to the medical profession. It was considered advisable to discuss the principles of medical legislation in a conference made up of both professional and lay delegates rather than to attempt to frame legislation through a convention composed entirely of physicians. If in the next few years such a conference can actually be called into existence, much can be accomplished in the form of uniform state legislation that will be of value, not only to the medical profession, but to the entire public.

PHILADELPHIA BRANCH OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

Meeting held Dec. 3, 1907.

The President, DR. JOSEPH P. REMINGTON, in the Chair.

SYMPOSIUM ON THE PRESCRIBING OF NOSTRUMS OF UNKNOWN COMPOSITION.

The Evil of Mystery in Therapeutics.

DR. JOHN H. MUSSER stated that no scientific grouping of any biologic truths can be made in which falsehood and truth are intermingled, and that the science of medicine rests on biologic laws which are as immutable as those of physics or of mathematics. To employ agencies, the composition of which is a mystery, is as much a method of the dark ages as to employ witchcraft, magic and other methods of that era. The effort should be to safeguard the individual, making no departure from the biologic laws which control his life, correcting such as may exist, and aiding the physiologic processes by which the organism defends, resists or adapts itself in that departure from the normal in function or structure, which is called disease.

The greater harm in the use of these agents, he said, is in their retroactive effect. The mind which permits itself to be subordinated to another will silently but surely lessen in vigor and virulence. Success in medicine, which alone is self-satisfying, is to be attained only by a scientific habit of mind, and any acceptance of the false or compromise with mystery will surely impair this habit. Just as a "snap" diagnosis is vicious in its effects on the faculties of observation, and the process of reasoning, so is a "snap" therapeusis in its effects on the art of treatment. Dr. Musser urged that the profession should for its own sake take a stand against haphazard, trivial, unscientific, belittling prescribing, which dwarfs the mind of the doctor and later the conscience, far more frequently than it does harm to the victim of such conscienceless procedures. He predicted that if pharmacists and physicians do not have a care, pharmaco-therapy, somewhat effaced at present, will give way to physiologic and psychic therapeutics.

The Physician's Breach of Trust: The Use of Secret Remedies.

DR. JOHN B. ROBERTS spoke on the unusual confidence shown in members of the medical profession by the public, and gave as his opinion that for doctors to prescribe remedies of which the composition is unknown to them, and could not be found out, is a breach of trust. He contended that the public has a right to expect the physician to know what amounts and what powerful remedies he prescribes for those entrusting their lives and health to him.

The cure for the nostrum evil is the adherence to the maxims of Hippocrates, the discontinuance of prescribing secret preparations by the professors of medical schools, the use of the Pharmacopeia as a text-book, the discarding of all samples of secret nostrums, better education in therapeutics, and the teaching that the physician who uses secret nostrums is a dangerous quack.

An Accurate Knowledge of the Composition of Medicine Prescribed by Physicians is Demanded.

DR. HENRY W. CATTELL suggested a few of the many existing conditions hindering the physician from knowing the composition and character of the medicines which he chooses for prescribing to his constantly diminishing number of pay patients out of the multiplicity of new remedies constantly being brought forward for his professional support. In the first place, the subject is not properly taught in medical schools. The United States Pharmacopeia or the National Formulary is rarely recommended for the medical student to read in his course of study. Dr. Cattell suggested that beneficial results would accrue in Philadelphia from an interchange of professors in the College of Pharmacy and the University of Pennsylvania. Second, self interest is said to lie at the root of many transactions between the pharmacist and the physician, with the patient as the intermediary. There should be adopted a proper system of nomenclature. Trade names are often too similar in character, and poisonous compounds might have some fixed beginning or ending common to all.

DISCUSSION.

DR. J. M. ANDERS expressed the hope that the papers would be given the widest possible circulation among both the medical and pharmaceutical professions of America. He thinks it clear from data presented that certain modifications of reforms regarding the art of therapeutics and especially concerning prescription writing are urgently needed. Mystery in therapeutics he regards as distinctly contrary to the scientific spirit of the age, as also to maintain secrecy either about the patient's condition or the agencies for relief. Exceptions to this rule are in cases of markedly hysterical females, in extremely neurasthenic subjects and among the very ignorant where any attempt at enlightenment would lead to no practical result. In such cases, confidence is strengthened by keeping obscure the nature of the remedies employed. Mystery based on assumed knowledge he strongly condemned. For the suggestion of Dr. Roberts that the fair name and the honor of the profession have been threatened by reason of changed conditions and certain practices among physicians he believes there is a tangible basis, and that though the picture be not pleasing, it is fully justified by known facts. In prescribing secret remedies and proprietary preparations, the more intelligent patients are led to believe that these agents are among the best, the patients generally are encouraged to prescribe for themselves. Regarding Dr. Cattell's plea for complete and accurate knowledge of the composition of remedies prescribed by physicians, he feels that many are guilty of unintelligent prescribing. This is often attributable to the greater convenience offered in writing a single word than in formulating a scientific preparation. The widespread employment of proprietary preparations by physicians he thinks is largely due to the interesting and convincing manner of their presentation by the traveling agents. In the control of the matter a continuance of the campaign of education regarding the art of therapeutics he considered most desirable, and stated his belief that the leading members of the medical profession, by continual agitation and discussion of the subject, together with an appeal directly to the intelligence and reason of the mass of the profession can bring about the desired result.

DR. H. C. WOOD, JR., does not believe with Dr. Musser that the prescribing of nostrums is limited to the unsuccessful and the ignorant physicians, but confessed to a profound conviction that it is limited to no class of physicians; that the most successful and the most brilliant, the men to whom those of the younger generation in the profession have been accustomed to look up, prescribe the nostrums and are responsible to a large extent for the continuance of the evil. To the belief of Dr. Roberts that the physician who prescribes secret remedies for his trusting patient is not better than a scoundrel, Dr. Wood added the opinjon that such physician is not better than a fool, because he not only violates his trust, but filches from his own pocket to enrich the wholesale manufacturer.

MR. EDWARD BOK, editor of the *Ladies' Home Journal*, in reviewing what had been accomplished by the present agitation, stated that the people had been told that self-doctoring

is deleterious to themselves, that the nostrum is largely either useless or harmful, and that thousands of people to-day, formerly in favor of nostrums, are absolutely opposed to them. Of the nostrum manufacturers, in three years, eighteen have been put out of business and two of the largest concerns are for sale. To-day it is practically impossible to get nostrum advertisements into any reputable monthly magazine, and after the first of the year it will be almost impossible to get "patent-medicine" advertisements into the religious weeklies. The next effort is to be centered on the county paper and after that on the newspaper. Regarding the advertising columns of the medical journals, Mr. Bok declared that with the exception of three or four, these journals are anything but a credit to the medical profession, yet the members of the profession subscribe for and contribute to them. Concerning the matter of prescription writing, it is stated that in 1906 examination of 5,000 prescriptions showed that there was 6 per cent. more "patent medicine" prescribed by leading physicians of Philadelphia than in 1905, notwithstanding the able paper of Dr. Frank Billings of Chicago and the full discussion at the 1905 session of the American Medical Association.

The instance was cited that six weeks ago a nostrum was exposed in THE JOURNAL of the American Medical Association as being an absolute fraud, special prominence being given to that exposure. Within ten days, however, fourteen physicians, the leading physicians of Philadelphia, had prescribed that nostrum for their patients. He believes Dr. Wood to be right in saying that it is not the second-rate physician, but the leading physicians of the city who are thus prescribing. An interesting instance cited was that of a woman recovering from pneumonia who was taking a "patent medicine" prescribed by one of the leading physicians of Philadelphia. The patient became more and more nervous and the heart beats more and more rapid. The physician declared that there was absolutely nothing in the medicine to stimulate the heart. Mr. Bok personally had the medicine analyzed and it was found to contain strychnin. The result was that the patient's family turned to osteopathy. He portrayed the picture as exceedingly interesting to laymen to see the physicians of Philadelphia rallying their forces at Harrisburg to oppose the osteopathy bill with one hand, while with the other they drive the people through unintelligent prescription writing to a drugless treatment.

Concerning the claim made by those prescribing certain remedies, that they are made by firms of unquestioned integrity, Mr. Bok referred to a tablet largely prescribed and supposed to contain iron, peptonoid and extract of nux vomica. An analysis of the tablet showed that what it really did contain was starch and glucose. Further investigation showed that three men were directly responsible for the manufacture of the pellet, of whom one had never seen the inside of a medical college or drug store, the second had failed to graduate from a Philadelphia medical college, and the third was a chemist of unquestioned standing. Being asked to prove, under pressure of an interesting time at Washington, that iron, peptonoid and nux vomica were contained in the tablet, the manufacturers agreed to change the label, saying that probably a mistake had occurred. Within two weeks of this occurrence, the leading physicians of Philadelphia were prescribing the remedy as before, although the Council on Pharmacy and Chemistry had declared it to be fraudulent. In closing, Mr. Bok questioned the use of discussions such as the present in the medical profession. Discussions have been held, but nothing done, except as Dr. Jacobi of New York City had said, only adding to the criminality. Mr. Bok admits that there are good patent nostrums, though mighty few. It is, however, the unintelligent prescription writing by doctors of unquestioned standing which is productive of the harm.

Mr. Bok said that it might be of interest to know that in two editorial offices of the country there is a fearful arraignment against the medical profession, absolutely appalling in consideration of the names attached. Were that put before the American public it would cause such a distrust of the physician, such an unrest and upsetting of confidence, as has not been known for generations. "It has been deemed wise not to publish this—*yet*."

PROFESSOR JOSEPH REMINGTON spoke of the effort being made to change the whole condition, in the furtherance of which the present meeting was held. He thinks that all would do better to withhold for a little while longer the dogs of war, and persistently endeavor to secure the united effort of the medical profession in the interest of the movement. He believes it better that the reform come from the inside of the medical and pharmaceutical societies.

DR. DAVID L. EDSALL stated that after Mr. Bok's vigorous address the medical profession ought to keep quiet and do something before speaking. He thinks, however, that the surface indication is perhaps not a true index of the change in the attitude of the medical profession against nostrums. Just as the influence of the teaching regarding tuberculosis is being felt, so is that of the agitation against "patent medicines." He believes that the mystery in medicine spoken of by Dr. Musser will be eliminated, and, in spite of Mr. Bok's sad figures, he regards the outlook as bright.

MR. FRANK E. MORGAN pointed out that the most objectionable features of a nostrum are that the ingredients, the proportions of ingredients and method of compounding are kept secret and that extravagant claims are made for its virtues. With a standard formula, any competent pharmacist, by the exercise of care and skill in the selection, preservation and compounding, can produce a perfect product. Mr. Morgan regards this as the time for pharmacists to demonstrate that they can and will dispense the National Formulary preparations or any other in a satisfactory manner. While there is no doubt that many of the proprietaries are well made and entitled to confidence, Mr. Morgan referred to the fact that good preparations accomplishing similar results, incorporated in a legal formulary, like the National Formulary, would bring about a uniformity and convenience to be accomplished in no other way. With the passage of the Food and Drugs Act and the propaganda of reform in proprietary medicines great changes are occurring, unreasonable requirements are being modified, and it has become imperative that a substance be labeled just what it is, and that no impossible claims be made for it. With intelligent, hearty cooperation great advance will be made in medicine and pharmacy.

DR. A. M. EATON said that prior to 1880 almost any man in Pennsylvania, whether or not he had ever gone to college, could practice medicine. He spoke of the improvement in the profession since the reorganization of the American Medical Association and of the work of the Council on Pharmacy and Chemistry. He believes that there is less prescribing of proprietary remedies to-day than formerly. He suggests that a page of the *Weekly Roster* published by the Philadelphia County Medical Society could be made use of with advantage in pointing out the dangers of nostrums. In this way 2,000 physicians in Philadelphia would be informed that such and such a remedy had been lately analyzed by the Council on Pharmacy and Chemistry of the American Medical Association and found to be worthless. At the meetings of the state society he thinks that an afternoon might well be devoted to the work being done by the Pharmaceutical Association.

MR. EDWARD BOK, in the desire to correct any misapprehension as to the percentage of physicians prescribing proprietary remedies, stated that he knew nothing of the situation to-day. He does know, however, that in 1905 the percentage was 41 and in 1906 it was 47, taking 5,000 prescriptions as a basis. What it is for 1907 he is not prepared to say, but he is now making arrangements, beginning with January 1, for a careful and systematic examination of prescriptions by physicians in all parts of the country in the large cities.

MR. C. P. GABELL related an experience in filling a prescription in which the proprietary written for was not kept by him and which he was necessarily delayed in procuring. That the patient is thus deprived of the medicine for a considerable length of time and the pharmacist given much inconvenience and expense, he thinks, should be considered by the physician. Other incidents were cited showing the disadvantage under which the pharmacist often works in trying to fill such prescriptions. He believes with Mr. Bok that there should be a fight to the finish in the eradication of many conditions in pharmaceutical and medical circles.

Mr. Apple said that were chemistry more thoroughly taught in the medical colleges there would be less difficulty on the part of physicians with the nomenclature. He feels that the honor of the medical profession is its most valuable asset which, once assailed, is slow to regain lost confidence. For the physician who will prescribe proprietary remedies for a percentage, either directly or in the form of shares of stock, he has only contempt. Mr. Apple stated that he had that day learned of a chemical concern offering a percentage of 25 per cent. on a product selling for a dollar a bottle. He feels that the physician stands much in his own light by not coming into closer touch with the pharmacist in refusing to prescribe these remedies.

Mr. Henry C. Blair stated that to a certain extent both physicians and pharmacists are responsible for the nostrum evil, as are also the journals and newspapers. Reference was made to a circular sent to the druggists throughout the country by the *Literary Digest* asking their support for certain articles advertised in the *Digest*, one of which Mr. Blair declared to be a pure fake and another, an article misbranded according to the ruling of Dr. Wiley.

Dr. Clement B. Lowe declared that the physician defeats his own interest in telling a patient to get certain proprietary remedies since the tendency will be to purchase again the same remedy without seeing a physician. He referred to a manufacturing concern in Philadelphia that at present is offering stock for the prescribing of their remedies. Dr. Lowe has long since ceased to advise *pro* or *con* a customer desiring to purchase "patent medicines." He spoke at some length of the interesting exposé of the Keeley Cure given in The Journal of the American Medical Association, Nov. 30 and Dec. 7, 1907.

Mr. Joseph L. Lemberger, Lebanon, Pa., declared that he stands on record as having acknowledged some years ago that the sin is not altogether on the side of the doctor, nor on that of the pharmacist; that both have sinned—the one for prescribing, the other for purveying. He is glad to note the coming of a better understanding of the two bodies and believes that the next generation will be the better for the purgation in this.

In a humorous vein and illustrative of about what has been going on all the time, Mr. Lemberger cited the experience of a friend, a teacher of a Sunday school class of young men. He had cut from the Saturday issue of one of the daily papers an article on the temperance lesson and with this in his hand was emphasizing its truths. In explanation of the merriment in the faces of his listeners he discovered that on the opposite side of the slip was printed in large type, "Drink —— Whisky!"

Mr. Lemberger paid a tribute to the physicians who have had the courage to take a firm stand on the nostrum evil and feels that the pharmacists should, and believes that they will, meet them with a corresponding disposition, ready and willing to compound the prescriptions of their own formulation.

Dr. Roberts said that if a man is willing to sign his name to a prescription containing a proprietary remedy he should be willing to have it known, and he earnestly hoped that Mr. Bok would make public the information to which he referred. Dr. Roberts paid a tribute to Dr. Adolph Koenig of Pittsburg, who had started this reform within the profession.

Mr. M. M. Osborne, Elkins Park, expressed his appreciation of the work done by Mr. Bok. He further said that many pharmacists would like to be strictly ethical, but that when physicians high in the profession prescribe "California Syrup of Figs" it is somewhat difficult. He does not show proprietary remedies, but keeps them in a dark place, selling them only when asked for.

Mr. Morgan spoke of the good results being produced by the agitation against the nostrum evil, saying that there is less tendency to fit the patient to some ready-made remedy.

Professor Joseph Remington showed on the blackboard the course taken by a physician in the country who wanted to prescribe a well-known nostrum, but did not dare to with its usual name. He, therefore, went to the trouble to write "Equinacherpesamaræ." An explanation of the term was afforded by dividing it into the following three syllables: "Hoss tetter bitters."

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Organization and Medical Progress.

In the November number of *Colorado Medicine* appears an address by Dr. H. D. Niles of Salt Lake City on medical organization. In setting forth the necessity for organized efforts, Dr. Niles states that intelligent cooperation between individuals marks each step of human progress and that organization and combination are the keynotes of success in every walk of life. The medical profession has been slow to recognize these facts and, as a consequence, the history of medicine has been a record of failures by the majority and achievements by the minority. The public has misjudged our motives and has misunderstood the efforts made to protect them from preventable diseases and from quackery. The standing and influence of the profession has suffered because the individual has not been strengthened by the united support of all.

The reorganization movement in the American Medical Association was undertaken to correct these evils so far as possible. To-day the medical profession has almost completed its organization, which now offers more to each individual member than ever before. The numberless local county, state and district societies which previously existed as separate units have practically all been united into one solid body, having a common purpose and controlled by a government in which each individual has a voice. This organization has already proved a great power for good in cultivating fraternalism, raising the standard of medical education, procuring sanitary legislation, beginning the abolition of quackery, as well as the solution of many problems of vital interest to the profession and the public.

After reviewing the provisions for organization as provided in the American Medical Association and its constituent branches, Dr. Niles considers in detail some of the advantages which this movement is destined to bring to the people of his own state. These he finds to be the abolition of prejudice and jealousy in local professional circles; the furnishing of the public with a definite standard of reputability, which will be membership in good standing in a local society; the enforcement of principles of ethical conduct; greater fraternity, cooperation and loyalty among physicians; increased ability and proficiency through postgraduate work, and medical society meetings. Through these and other causes the public will enjoy better qualified and more competent physicians and surgeons.

Dr. Niles feels that the present reorganization is but the beginning of a new era in medical progress, which will be characterized by greater achievements than any previous period in the history of medicine.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month.

Fourth Weekly Meeting.

Gout.

Theories of Causation.

Uric Acid Theories: (1) Increased formation and decreased elimination. (2) Decreased alkalinity of blood, without increased formation. (3) Excessive formation and accumulation, exciting inflammation. (4) A hypothetic ferment. (5) Accumulation from diseased condition of kidneys.

Clinical Varieties.

Acute Gout: Prodromata, pains, restlessness, dyspepsia, Urine. Asthmatic attacks.

Attack—Time of onset, joints usually involved, local signs, temperature, length of attack.

Retrocedent Gout: Visceral or suppressed gout. Gastrointestinal, cardiac, cerebral symptoms.

Chronic Gout: Transition from acute to chronic. Joints involved. Deposits, location and chemistry. Deformity. Course. Associated conditions.

Irregular Gout: Heredity and lithemic state. (a) Joint and muscle pains. Muscles and joints usually involved. (b) Cutaneous eruptions. (c) Gastrointestinal disorders. (d) Cardiovascular symptoms. (e) Nervous manifestations. (f) Urinary symptoms. (g) Pulmonary and ocular disorders.

Arthritis Deformans.

Etiology: Neurotrophic origin, reasons therefor. Bacteriology. Sex. Age. Social condition and nervous shock.

Symptoms: Acute—Frequency, age and sex. Relation to pregnancy and lactation. Multiple arthritis. Course.

Chronic—Symmetrical arthritis, pain, physical signs, characteristic deformity of hands and feet. Muscles, skin, nails. Monarticular arthritis. Spondylitis deformans. Heberden's nodes, age, sex, joints, physical signs. Course of chronic form.

Diagnosis: Differentiate from acute rheumatism, chronic rheumatism and gout.

[Because of the space required for the semi-annual Index to THE JOURNAL in the issue of December 28, the following programs are given here instead of in that issue.]

FOURTH MONTH.

DISEASES OF THE LUNGS.

First Weekly Meeting.

Lungs: Gross and Microscopic Anatomy.
Blood Supply, Functional and Nutritional; Nerves and Lymphatics.
Physiology of Respiration.
Normal Physical Diagnosis.

Second Weekly Meeting.

Bronchitis, Acute: Pathology and Symptoms.
Bronchitis, Chronic: Pathology and Symptoms.
Congestion of Lungs: Hemoptysis.

Third Weekly Meeting.

Pneumonia, Lobar and Lobular.
1. Differentiate Etiology, Bacteriology.
2. Differentiate Pathology.
3. Differentiate Symptoms and Physical Signs.

Fourth Weekly Meeting.

Pleurisy: Variety, Etiology, Pathology.
Emphysema.
Gangrene of Lung.
Abscess of Lung.

Monthly Meeting.

Treatment of Pneumonia. Physiologic and Therapeutic Action of: 1. Cardiac Depressants. 2. Cardiac Stimulants. 3. Expectorants.
Hemoptysis.
Pleurisy (Plastic): Diagnosis and Treatment.

FIRST WEEKLY MEETING.

Anatomy.

Demonstrate Fresh Specimen.

Trachea: Length, diameter, boundaries and important relations.

Bronchi, Right and Left: Location and surface markings. Difference between two. Divisions of bronchi to terminations.

Microscopic Anatomy: Exhibit microscopic sections. Trachea and bronchi. Difference in structure of larger and smallest tubes.

Tracheal Glands: Location, gross and microscopic structure. Drain into what?

Blood Supply: Of trachea and bronchi.

Nerve Supply: Nerves supplying trachea and bronchi. Origin of each.

Pleura: Pleura and its reflections.

Mediastinum: Divisions and important contents of each.

Lungs: Size, shape, weight, color, etc. Differences between right and left. Relations of structures entering root of lung. Histologic structure. Differentiate functional and nutritional blood supply.

Physiology of Respiration.

Theories of respiration. Errors of each. Normal position of thorax.

Inspiration and expiration, (a) active and (b) passive.

Mechanism of (a) inspiration, (b) expiration.

Types of breathing.

Vital capacity. Tidal air. Complemental air. Supplemental air. Residual air. Intrapulmonic and intrathoracic pressure. Effect on circulation.

Differences, physical and chemical, in inspired and expired air.

Changes in blood during passage through lung.

Respiratory center. Location. Automaticity.

How stimulated reflexly.

Normal Physical Diagnosis.

Outline regions of chest, locating different organs by surface markings. Demonstrate methods of examination, inspection, palpation, percussion and auscultation on normal chest.

Medicolegal

Insane Delusions, Expert Evidence and Testamentary Capacity.

The Supreme Court of Illinois says, in the case of Owen vs. Crumbaugh, that a person who believes supposed facts, which have no existence except in his perverted imagination, and which are against all evidence and probability and conducts himself, however logically, on the assumption of their existence is, so far as they are concerned, under an insane delusion. Whatever form of words is chosen to express the legal meaning of an insane delusion, it is clear, under all of the authorities, that it must be such an aberration as indicates an unsound or deranged condition of the mental faculties, as distinguished from mere belief in the existence or non-existence of certain supposed facts or phenomena based on some sort of evidence. A belief which results from a process of reasoning from evidence, however imperfect the process may be or illogical the conclusion, is not an insane delusion. An insane delusion is not established when the court is able to understand how a person situated as the one in question was, might have believed all that the evidence shows that he did believe and still have been in full possession of his senses. The existence of insane delusions on one subject is not incompatible with sanity on all other subjects.

Furthermore, the court holds that where the proof shows facts which prove, beyond all doubt that a testator was in the full possession and proper exercise of all of his mental faculties, an opinion of an expert, based on a hypothetical state of facts not inconsistent with legal insanity, can have little or no weight, and in the absence of any other evidence of insanity will not warrant the court in refusing to direct a verdict notwithstanding such opinions.

It is also declared that it could not be said with any show of reason that the varicose veins of a person's leg, causing it to become black from the knee to the foot, or the further fact that he was troubled with heart disease, had the remotest effect on his capacity to make a will. Equally unimportant and irrelevant were the supposed facts that until three years before the making of the will he had been opposed to spiritualism, and that afterwards he cared chiefly for the society of spiritualists.

Father's Liability for Treatment of Child.

The Supreme Court of Oklahoma says, in Howell vs. Blesh, that a physician can not recover for professional services rendered in the face of objections of one who would be liable

therefor. But where a wife requests medical treatment for an infant, it will be presumed, in the absence of proof, that she is acting as the agent of her husband; though such presumption may be overcome by evidence. A father is liable for medical or surgical services rendered his child at the request of his duly authorized agent; also, for hospital service received under similar circumstances.

Disease Defined.

The Supreme Court of Iowa says that in the case of Kenny vs. Bankers' Accident Insurance Company of Des Moines the physicians spoke of traumatic neuritis as a disease, and in a sense this must be so; but it was for the jury to say whether it was such a disease as was referred to in the accident insurance policy involved in this case. A "disease" is a malady, affection, sickness or disorder, and, as used in the policy, it meant something different from a wound or hurt producing an injury and immediate functional disturbance.

Classification of Death from Dog Bite—"Immediately Disabled."

The Supreme Court of Pennsylvania holds, in Farner vs. Massachusetts Mutual Accident Association, that the death of an insured should be classed under the "accident," and not under the "health," provisions of an accident insurance policy. It says that the insured in this case died from the bite of a dog—certainly an accident, not a disease. The proximate cause of the death was the bite, and the way in which it operated to produce death, whether by hemorrhage or lockjaw or blood poisoning, was a medical detail which did not affect the material fact of death resulting from the accident. Nor does the court think much of the argument that the insured was not "immediately disabled." It says that he was bitten in the thumb, his hand was bandaged at once, and, though the gravity of the injury was not at first appreciated, yet the use of his hand was interfered with from the moment and continued to be more and more so, with increasing pain, until his death, two weeks later. There was no break in the continuity of the consequences of the injury, and no intervening cause in the resulting disability. "Immediately," under such circumstances does not mean "instantly."

Appendicitis Caused Solely by Fall.

The United States Circuit Court of Appeals, Sixth Circuit, says that, while the insured, under an accident policy, in New Amsterdam Casualty Company vs. Shields, was driving in a buggy a front wheel ran off and he was thrown against the dashboard, striking his abdomen. That night he complained to his wife of pain in his bowels, especially on the right side. The next day, Friday, he was at his office, and that afternoon spoke to his family physician of the accident and of the soreness in his bowels. That night he was suddenly seized with severe cramping pains in the abdomen, nausea, vomiting, high fever, and rapid pulse. On Saturday his condition was worse. On Sunday morning a surgeon of high reputation was called in consultation and the case diagnosed as acute appendicitis. An operation on Tuesday disclosed that the trouble was acute appendicitis, septic peritonitis and locked bowel. Death followed on Thursday.

The question was whether the fall against the dashboard of the buggy caused the attack of appendicitis which brought about the death of the insured. It appeared that he had had two attacks of appendicitis 10 or 12 years before his final one. The surgeons were divided in their views. Those who attended the insured were clear in the opinion that the attack of appendicitis which terminated fatally was caused by his fall against the dashboard of the buggy, and those who were called as experts only and gave their opinion on a hypothetical case were equally clear in the view that the attackof appendicitis was not caused by the fall, but that the septic peritonitis and locked bowel, which brought about his death, was occasioned by a crippled or diseased appendix as the result of chronic recurrent appendicitis.

If the insured recovered from his former attacks of appendicitis, so that it no longer existed in his body, and there was only a susceptibility to have it in case a proper exciting cause should arise, and in this case the fall against the dashboard proved to be such exciting cause, the case would be one for recovery under the policy; but if because of the former attacks there was not merely a susceptibility to a further attack, but the actual disease itself existed, liable to be rendered active and virulent by an injury such as that suffered by the insured, in that event the active disease which resulted in death would not be regarded as the result of the fall alone, but as the joint result of the fall and the latent disease, and hence there could be no recovery under the policy.

The question whether the disease of appendicitis, which brought about the death of the insured, was itself caused solely by the fall against the dashboard was submitted to the jury, which found that it was, and judgment on their verdict for the beneficiary is here affirmed.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

December 7.

1 Diseases of Liver Amenable to Surgical Treatment. C. A. McWilliams, New York.
2 *Plastic X-Ray Pictures or Roentgenograms. W. H. Dieffenbach, New York.
3. Chemical and Microscopic Routine in Investigation of Gastro-intestinal Disorders. D. M. Kaplan, New York.
4 Case of Epilepsy of the Family Type. W. Sinkler, Philadelphia.
5 *Infections Within the Thorax—Empyema. J. H. Musser, Philadelphia.
6 Some Things Not Generally Known About Syphilis. J. A. Hawkins, Pittsburg, Pa.
7 *Treatment of Fracture of Patella. G. W. Ely, Pittsburg, Pa.
8 The Corporation and the Medical Witness. W. H. Peters, Providence, R. I.
9 *Animal Therapy in Tuberculosis. G. B. Sweeny, Pittsburg, Pa.

2. **X-Ray Pictures.**—Dieffenbach describes a method of obtaining plastic Roentgenograms, which consists essentially in making a positive from the negative and sunerposing the pictures so that they register accurately, binding them together with lantern-slide binders and printing therefrom. The specimen pictures, five in number, are admirable.

3. **Laboratory Routine.**—Kaplan describes in great detail the various laboratory methods used by him, including the use of the stomach tube, the analysis of feces and urine, the analysis of the gastric functions, and the blood examination.

5. **Empyema.**—Musser quotes from statistics of University Hospital, Philadelphia, of 489 cases of pneumonia, giving 1.8 per cent. of empyema following; the literature, giving 2.1 per cent. of empyema following on 12,892 cases of pneumonia; and 5.1 per cent. of empyema found at autopsy out of 973 cases of pneumonia. He considers certain points in the early recognition of the condition, which he divides into three groups: 1. The antecedents; 2, well-defined local symptoms; 3, physical signs. Empyema does not occur idiopathically. The antecedent condition is pneumonia in most cases, occasionally typhoid or scarlet fever or other infections. This pneumonia is always accompanied with a serous pleurisy, and the point he urges is to be on guard for the development of the general phenomena of infection after the subsidence of the pneumonia or other primary infection. Such secondary infection may occur prior to, during, or after, the subsidence of the primary infection, so that a persistence of leucocytosis after the crisis, or its appearance after the normal fall at the crisis, is a matter of grave suspicion. With regard to local symptoms, pain need not be severe or of the acute pleuritic type, but the persistence of steady pain, the presence of localized tenderness, elicited by pressure of the finger and at first deeply seated, suggests both the fact of abscess and its location. The significant signs are those indicating impairment of the expansion of the lung, and the presence of localized pleuritis. These signs are to be sought especially along the divisions of the lobes and at the extreme base. When we have put together the occurrence of these three groups, then it is our duty to our patient and to ourselves to ask for an exploratory operation by a surgeon, by which Musser means, not the mere cutting down on the pleura, but resection of the rib. This method is preferable to the needle, as being freer from danger owing to the almost impossibility of localizing the lesion so as to direct the needle straight to it.

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7. **Fracture of the Patella.**—Ely insists that there is a definite mortality connected with fractures of the patella and says that the points which should be uppermost in the selection of a method of treatment should be the lowest mortality, the greatest restoration of function to the joint, and the shortening of the period of recovery. Having these points in view, he considers that the methods commonly used fail both in the employment of non-absorbent suture material and in the habit of suturing the patella directly. He says that the power of extending the leg is resident not alone in an intact patella, but for the most part in the function of the lateral ligaments and other expansions of the capsule, which as a rule are torn at the time of the fracture. When the soft parts, the patellar ligaments, capsular ligament and the periosteum have been firmly united and nothing intervenes between the bony fragments, the portions of the fractured patella will be in position and will be held so until union has taken place. The essence of his method consists in opening the joint, cleansing it of all blood and débris, irrigating the joint with warm sterile water, sewing the tears in the lateral patellar ligaments and uniting the periosteum over the line of bony apposition with kangaroo tendon or properly prepared catgut, and throwing a suture around the entire patella beneath the soft parts and drawing it tight. The wound is immobilized by a posterior splint. In two weeks passive motion is begun. He reports two cases.

9. **Animal Therapy in Tuberculosis.**—Sweeney has tried the idea of utilizing the lymph collected from the thoracic duct of an immunized bullock in treating patients suffering from tuberculous infection. This method has been used for five years and it is found that no febrile reaction follows in the case of a healthy organism, but in the case of a tuberculous patient there ensues a negative phase followed by a positive phase which leads ultimately to an immunity. Normal temperature, diminution of night sweats, stimulation of secretions, cicatrization in hemorrhagic cases, and increase in bodily health and vigor are the advantages claimed.

Boston Medical and Surgical Journal.

December 6.

10 *Technic in Examination and Local Treatment of Upper Rectum and Pelvic Colon. T. C. Hill, Boston.
11 *Further Studies on Nocturnal Paralysis. I. H. Coriat, Boston.
12 Exophthalmic Goiter. E. Swasey, Worcester, Mass.
13 Nonulcerative Follicular Ileocolitis. F. E. Stetson and O. S. Crevley, New Bedford, Mass.

10. **Examination of the Rectum.**—Hill describes in detail, with illustrations, the preparation of the patient for examination, the technic of passing the tube, the application of the method in rebellious chronic diarrhea, which is frequently due to ulcerated areas of the rectum or sigmoid, in constipation, and in rectal cancer.

11. **Nocturnal Paralysis.**—Coriat describes the following characteristics of nocturnal palsy: It appears only in the hypnagogic state and runs parallel with it. When it occurs in normal individuals it is a transitory and rare phenomenon. Sometimes it follows a strong emotional shock and assumes the characteristics of a recurrent mental state, as in the case published in his first paper. The symptom-complex may occur in hysteria, neurasthenia or psychasthenia. In neurasthenia it appears to be merely symptomatic of the underlying neurosis with its concomitant sense of exhaustion. In hysteria and psychasthenia it is an equivalent disorder in the sense of replacing the narcoleptic attacks in the former disease or the peculiar crises of anxiety in the latter. The nocturnal palsy has a varying duration, from a few seconds in normal individuals to several minutes, or even a quarter of an hour, in pathologic cases. The entire symptom-complex is a mental dissociation reacting most strongly on the motor mechanism, and as a purely functional disorder, it is distinctly amenable to psychotherapeutic treatment.

Medical Record, New York.

December 7

14 *Six Cases of Malignant Endocarditis. A. Meyer, New York.
15 *Perforated Gastric and Duodenal Ulcer; Report of Eight Cases. C. H. Peck, New York.
16 *Tuberculins and Sera: Synopsis of Various Preparations in Use. W. Meyer, West Hoboken, N. J.
17 Alcoholic Delusional Insanity. L. F. La Pierre, Norwich, Conn.
18 *Treatment of Joint Tuberculosis in Children. L. W. Ely, New York.
19 Surgical Aspects of Malignant Endocarditis. J. A. Blake, New York.

14. **Malignant Endocarditis.**—Meyer describes six cases of malignant endocarditis and finds the most striking feature to be the predisposing influence of pre-existing chronic endocardial disease, while the actual cause appears to be the circulation of micro-organisms in the blood. Of the symptoms, the most important are fever, petechiæ in the skin and occasionally in the conjunctiva before they occur elsewhere, and symptoms due to infarcts of internal organs and glandular enlargements. He agrees with other authors, that there may be neither auscultatory nor percussion evidence of cardiac disease. As to treatment, nothing so far seems of any avail. Meyer is pessimistic as regards the value of serum treatment.

15. **Perforated Gastric Ulcer.**—Peck reports eight cases and draws the following conclusions: 1. Perforated gastric or duodenal ulcer should be curable in a good percentage of cases if promptly recognized, the mortality being in direct ratio to the time allowed to elapse prior to operation. 2. Perforation is apt to occur without any special warning or exacerbation of gastric symptoms, and often without any previous history of such symptoms. 3. The operative procedure should be simple, quick, and accompanied by as little manipulation of intra-abdominal contents as possible. Closure of the perforation by suture without attempt at freshening the edges or excision of the ulcer is generally sufficient. Gastroenterostomy is better held in reserve as a secondary operation, and may never be required.

16. **Tuberculin.**—Meyer gives a summary of the various preparations of tuberculin and anti-tuberculosis sera that have been introduced at different times, describes their mode of preparation, doses, selection of patients, technic, etc.

18. **Joint Tuberculosis.**—Ely considers the main essential idea in the treatment of joint tuberculosis in children to be rest, and describes the methods by which this may be attained, respectively in Pott's disease, abscesses, psoas contraction, paraplegia, hip-joint disease, and affections of the knee, ankle, wrist and elbow. He describes the routine at the Sea Breeze Hospital.

Lancet-Clinic, Cincinnati.

December 7.

20 *Goiter. G. W. Crile, Cleveland.
21 *Professional Confidences. E. S. McKee, Cincinnati.

20. Abstracted in THE JOURNAL, Oct. 26, 1907, page 1468.

21. **Professional Confidences.**—McKee reviews the law relating to professional secrecy in the various states, and particularly considers its ethical aspects in relation to syphilis and marriage.

Annals of Surgery, Philadelphia.

November.

22 *Multiple Carcinomata Following Chronic X-Ray Dermatitis. C. A. Porter and C. J. White, Boston.
23 Phagedenic Ulceration of Both Breasts During the Puerperium. J. D. V. Singley, Pittsburg.
24 *Cutaneous Horns. C. K. Roys, Weihsien, China.
25 Traumatic Hematomyelia. M. R. Barker, Chicago.
26 *Nerve Disassociation; New Method for Relief of Painful or Paralytic Affections of Nerve Trunks. W. W. Babcock, Philadelphia.
27 Operations on Spinal Column. W. S. Baer, Baltimore.
28 *Surgery of the Thoracic Duct. H. P. DeForest, New York.
29 Dermoid Cyst of the Head. J. S. Horsley, Richmond, Va.
30 Stylohyoid Ossification. T. Dwight, Boston.
31 *Acute Dilatation of the Stomach—Gastromesenteric Ileus. J. C. Bloodgood, Baltimore.
32 Tuberculosis of the Cecum. C. G. Cumston, Boston.
33 *Strangulation Resulting from Distension of Hollow Viscera. C. Van Zwalenburg, Riverside, Cal.
34 Abnormal Ileoappendicular Fold as Cause of Partial Occlusion of Bowel. C. H. Whiteford, Plymouth, Eng.
35 *A New Liver Suture. V. B. Knott, Sioux City, Iowa.
36 Operative Treatment of Calculi Impacted in Pelvic Portion of Ureter. H. M. Rigby, London, Eng.

22. Abstracted in THE JOURNAL, June 15, 1907, page 2060.

24. **Cutaneous Horns.**—Roys reports three cases occurring in native Chinese, not merely as surgical curiosities but because he considers that they throw some light on the connection between horns on the skin and epithelioma. The horns grew respectively on the lobe of the right ear, on the lips and on the glans penis.

26. **Nerve Disassociation.**—In a preliminary report Babcock gives the results obtained in treating certain forms of paralysis or paresthesia due to injury or inflammation of nerve trunks by isolating the affected part of the nerve through an incision, freely opening the nerve sheath, disassociating the component fibers, and isolating the nerve from later fibrous tissue compression. The neurolysis is intended to permit the escape of exudate from within the nerve sheath; to reduce pressure on individual nerve fibers; to free axis cylinders which have become useless through entanglement in scar tissue; to facilitate the formation of new or the restoration of old nerve paths, and to simulate desirable trophic changes in the nerve trunk. He describes the technic of the operation and says that theoretically it may be of benefit as follows: 1, To relieve tension within the sheath; 2, to permit a rearrangement of nerve paths; 3, to facilitate the bridging of cicatricial gaps in nerves. He quotes four cases and says that for the present we may conclude that the surgical disassociation of nerve fibers may be carried out without producing gross evidence of reduction in the conducting power of the nerve. Disassociation probably is not so apt to produce paralysis as thorough nerve stretching. In certain cases of neuritis, nerve disassociation is less dangerous and more potent in relieving symptoms than nerve stretching. In certain cases of motor paralysis following inflammation or injury of nerve trunks, disassociation may be followed by a remarkable and almost immediate return of some of the function. In the treatment of certain forms of peripheral paralysis due to interruptions of nerve paths by masses of fibrous or other tissue the operation of nerve disassociation from its apparent safety and conservatism is deserving of trial. Is is especially warranted in cases of brachial birth palsy in which no gross lesion is found in the nerve trunks or in cases in which extensive resections, anastomoses, or forms of nerve bridging by catgut or other materials would be employed.

28. **The Thoracic Duct.**—DeForest says that the thoracic duct has collateral branches always which are able, in case of accident, to perform the function of the main duct. Further anatomic investigations concerning this are greatly to be desired. The sudden closure of the duct in man has had as its result only transitory disturbance in the nutrition of the body. Chylorrhea occurring after a wound of the duct, must, if possible, be immediately controlled. The wounded thoracic duct may be treated precisely as we would treat a wounded blood vessel. Suture is the ideal method; if it is technically possible, its use is to be preferred, since the duct then remains patent. In all cases in which suture can be performed, a ligature should be applied. If ligature is technically impossible, then clamps should be applied, and in emergency, as a last resort, tamponading should be used.

31. **Dilatation of the Stomach.**—Bloodgood discusses, with case reports, gastromesenteric ileus and postoperative acute dilatation of the stomach, and says that the last named is a lesion which we must be constantly on the alert to recognize, both as a primary and as a postoperative disease. Its recognition should not be difficult. Prompt treatment with the stomach tube and irrigation, repeatedly performed, is the first requirement. In some cases the tube may have to be passed through the nose. This should be associated with change in position—knee-chest, and left lateral, with elevation of pelvis. When the dilatation of the stomach persists, the accumulated fluid fails to pass, and the patient becomes weaker from loss of food, operation should be performed. The chief etiologic factor seems to be some toxic agent in a patient weakened, perhaps, by previous disease and suffering from some chronic gastric lesion. In some cases the toxic factor may be sufficiently great to produce paralysis with hypersecretion in a stomach previously dilated.

33. **Strangulation of Hollow Viscera.**—Van Zwalenburg describes experiments on dogs undertaken to demonstrate that distension of the appendix back of an obstruction in any part of its lumen will interfere with its circulation even to the point of arresting it entirely. He applies this doctrine to strangulated hernia, gall-bladder conditions, typhoid perforation, etc.

35. Published in the *Iowa Medical Journal*, Oct. 15, 1907. Abstracted in THE JOURNAL, Nov. 16, 1907, page 1719.

Journal of Medical Research, Boston.

November.

37 *Inoculable Tumors of Mice. E. E. Tyzzer, Boston.
38 *Series of Twenty Spontaneous Tumors in Mice, with Accompanying Pathologic Changes and Results of Inoculation of Certain of These Tumors Into Normal Mice. Id.
39 *Heredity in Relation to the Development of Tumors in Mice. Id.
40 *Separation of Opsonic Amboceptor and Complement in Cold. W. S. Chapin and D. M. Cowie, Ann Arbor, Mich.
41 Case of Chorioepithelioma of the Testicle. S. T. Orton, Columbus, Ohio.

37, 38 and 39. **Mouse Carcinoma.**—The Jensen tumor has been inoculated successfully for ten generations or transplants. Actively growing tumors developed in 45.6 per cent. of the normal mice inoculated. Sixteen per cent. of the tumors developed for a time, but later disappeared spontaneously. The reinoculation of mice in which the first inoculation had resulted negatively produced tumors in 20 per cent. Some tumors of this strain appeared soon after inoculation, others appeared after a considerable interval of time. One tumor was not apparent until 64 days after inoculation. Many tumors, which appeared late, afterward diminished in size and disappeared, but one which appeared 60 days after inoculation attained great size. From the result of the inoculation in the latter instance, it is possible for the growth of the tumor epithelium to be suspended for a long time and then to assume greater activity. The Ehrlich "Stamm 11" tumor has been carried through ten transplants. Actively growing tumors appeared in 52.6 per cent. of the normal mice inoculated. In one there was spontaneous retrogression. Tumors of this strain show greater regularity of growth than Jensen tumors. They appear soon after inoculation and their subsequent development is uniform. Certain breeds of mice were found more susceptible to the two strains of inoculable tumor than others, and inoculation of mice from one source always resulted negatively.

Metastases were present in 4 of the 73 mice in which the Jensen tumor developed. These were all in the lung. Ino no instance were the lymph nodes adjacent to the tumor involved, although in many they were in contact with the surface of the tumor. In this respect the inoculated tumors behave differently from the spontaneous tumors of the mouse, which not infrequently invade the lymph nodes.

Spontaneous papillary cystadenoma of the lung has been found in 12 mice. Since mitotic figures were found in only one of this type, they are probably of slow growth, but they may attain such size as to interfere with the function of the lung, and sometimes grow into the bronchi. Cystadenoma of the kidney, found in 2 cases, probably arises by the irregular growth of the epithelium lining cysts. They show no evidence of active growth, and are probably benign.

Subcutaneous adenocarcinoma was found in 4 female mice, all of different type. Metastasis had occurred in 3 of these. In the fourth, recurrence followed excision of the primary tumor.

An adenocarcinoma which developed on the neck of a Japanese waltzing mouse was of a peculiar type. Many of the epithelial cells contained fat, and there were nests of large vacuolated cells, so that the structure of the sebaceous follicles and preputial glands was closely simulated. In portions of the tumor the epithelium was intimately intermingled with the connective tissue.

The third subcutaneous adenocarcinoma presented irregular narrow fissures in the epithelium (*"Spaltenbildendes carcinom"*). The unequal growth of the glandular epithelium had resulted in a tumor irregularly papillary in type. The epithelium grew in the lymphatics. The fourth subcutaneous adenocarcinoma, which recurred after excision, showed a marked tendency to hemorrhage (Cystocarcinoma hemorrhagicum). The glandular portions of this tumor contained colloid material.

Six of these series of spontaneous tumors were inoculated into normal mice. Of 4 subcutaneous adenocarcinomas, 2 grew on transplantation, one failed to grow, possibly by reason of an accompanying infection, and with the fourth the results of the transplantation were negative. The inoculation of a rapidly growing lymphosarcoma into normal mice resulted negatively. Inoculations with a papillary cystadenoma of the lung furnished only negative results.

Spontaneous tumors originating subcutaneously appear to metastasize much more frequently than either Jensen's or Ehrlich's "Stamm 11," when similarly situated. The lymph nodes are frequently invaded by the spontaneous tumors, but this has never occurred with the inoculable tumors, in which metastasis takes place by way of the blood vessels. An inoculable tumor in a Japanese mouse differs from the Jensen and Ehrlich "Stamm 11" tumors in that it grows into the lymphatics.

The results of the breeding experiments are not thus far sufficiently numerous to prove or disprove that the development of a tumor is dependent on the presence of an inherited character, although the data obtained may appear to favor this view. It seems possible by certain lines of experimental breeding, with the principles of Mendel's law of heredity in mind, to obtain definite results, whether they be positive or negative.

40. **Opsonins.**—Chapin and Cowie report the removal of the opsonin for staphylococcus in normal human serum by adding sufficient number of cocci and keeping the mixtures at 1° C., and they believe they have found that serum so treated may still have the power to reactivate a heated serum. Naturally they favor the amboceptor-complement theory for the structure of opsonin.

American Journal of Obstetrics, New York.

November.

42 *An Old Idea Which Introduces a New Principle in Surgery. R. T. Morris, New York.
43 *Observations and Reflections on Gallstone Disease. H. O. Panzer, Indianapolis.
44 *Tuberculosis of the Kidney, with Report of Cases. R. B. Hall, Cincinnati.
45 *Toxemia of Pregnancy as Observed by the Gynecologist. R. R. Huggins, Pittsburg, Pa.
46 *Present Treatment of Puerperal Sapremia and Puerperal Sepsis. J. E. Cannaday, Hansford, W. Va.
47 *End Results in Operations for Prolapsus Uteri. J. W. Keefe, Providence, R. I.
48 *Phlebitis Following Abdominal Operations. O. G. Pfaff, Indianapolis.
49 *Formation of Artificial Vagina by Intestinal Transplantation. J. P. Baldwin, Columbus, Ohio.
50 *Some Causes of Painful Menstruation in Young Unmarried Women. W. A. B. Sellman, Baltimore.
51 *The Menstrual Function; Its Influence on Chronic Inflammatory Conditions of the Appendix. F. Reder, St. Louis.
52 *Lithopedion or Lithokelyphopedion, Thirty-two Years Old, Successfully Removed from a Woman of 67. H. E. Hayd, Buffalo, N. Y.
53 *Ophthalmia Neonatorum: A Pathologic Anachronism. F. P. Lewis, Buffalo, N. Y.
54 *Premature Interruption of Pregnancy. J. A. Lyons, Chicago.
55 *Typhoid Perforations. J. Price, Philadelphia.
56 *When Shall We Perform Myomectomy and When Hysterectomy in Uterine Fibromyomata? J. N. West, New York.
57 Enucleation of Large Extramural Intraligamentary Uterine Myomata Without Mutilating Any Pelvic Organ. H. Howitt, Guelph, Ont.
58 Case of Subperitoneal Pelvic Fibroid Complicating a Four-Months' Pregnancy. Hysterectomy. E. G. Elake, Cincinnati.
59 *Temporary Ureterovaginal Fistula After Panhysterectomy for Fibroid of the Uterus. E. Jonas, St. Louis.
60 Fibroid Operations During Pregnancy. J. H. Carstens, Detroit, Mich.

42. Abstracted in THE JOURNAL, Sept. 28, 1907, page 1135.

43. Abstracted in THE JOURNAL, Oct. 5, 1907, page 1210.

44, 46, 47, 48. Abstracted in THE JOURNAL, Oct. 5, 1907, page 1211.

49, 50, 51, 52, 54, 55. Abstracted in THE JOURNAL, Oct. 5, 1907, page 1212.

45 and 53. Abstracted in THE JOURNAL, Sept. 28, 1907, page 1135.

56 and 59. Abstracted in THE JOURNAL, Oct. 5, 1907, page 1213.

Medical Fortnightly, St. Louis.

November 25.

61 *Cholecystitis: Etiology and Diagnosis. T. E. Potter, St. Joseph, Mo.
62 Toxemia of Pregnancy. B. L. Hale, Neal, Kans.
63 *The Age in Which We Live. C. Pope, Louisville, Ky.

61. **Cholecystitis.**—Potter considers that the most probable cause of infection of the gall bladder is not through the intestinal walls, the hepatic tissue or the duodenum through the hepatic ducts, but through the blood of the portal system; and from this source we have not only catarrhal and parenchymatous inflammations, with occasional empyema, but sometimes malignancy caused by the presence of stones. Among the most prominent symptoms is tenderness immediately under the ninth intercostal cartilage, which he considers as important a symptom as tenderness over McBurney's point is in appendicitis.

63. This article was published in the *Lancet-Clinic*, Nov. 16, 1907.

Bulletin Johns Hopkins Hospital, Baltimore, Md.

November.

64 *Importance of Simple Physical and Psychical Methods of Treatment. W. S. Thayer, Baltimore.
65 Physician and Surgeon in Shakespeare. A. W. Meyer, Baltimore.
66 *Epidemic Pneumonia. M. Fabyan, Baltimore.
67 Displacement of Heart by Pleural Pressures. W. J. Calvert, Columbia, Mo.
68 *Compensatory Venous Congestion. W. J. Calvert, Columbia, Mo.
69 Eclampsia Without Convulsions. J. M. Siemons, Baltimore.

64. Published in the *New Orleans Medical and Surgical Journal*, October, 1907, and abstracted in THE JOURNAL, Nov. 9, 1907, page 1631.

66. **Epidemic Pneumonia.**—Fabyan summarizes his paper as follows: Out of a family of ten members, parents and eight children, one of whom lived away from home, six members developed acute pneumonia within a period of ten days. A seventh, a child of 5 years, developed an illness characterized by headache, stomachache and fever, several days after the onset of illness of patient six. A week later, when seen, the patient had recovered and no signs were evident in the lungs. An eighth, the father, had been ill with a cold, hoarseness, and abdominal pain for three or four days before the onset of illness in patient one. Two members of the family only escaped; the mother and the daughter who lived away from home, but returned to nurse the patients. Five patients treated in the hospital proved to have uncomplicated acute pneumonia, and a sixth examined at home proved to have resolving pneumonia. One case in a girl of 14 was fatal. Pneumococci were obtained on culture from the circulating blood during life, and later at autopsy in the heart's blood. Necropsy showed a croupous pneumonia of the pseudolobar type. Study of the conditions under which the patients lived revealed no special etiologic factors beyond crowding and ill ventilation. It is interesting to note that where two of the patients slept together, the second infection followed the first in every instance in from six to nine days.

68. **Compensatory Venous Congestion.**—Calvert proposes, on account of the importance of venous congestion in compensating pericardial and pleural effusions, pneumothorax and tricuspid lesions, the name "compensatory venous congestion" as more accurately describing the function of the congestion than the term chronic passive congestion, which was adopted at a time when the rôle of the congestion probably had not been fully considered.

Journal of Nervous and Mental Diseases, New York.

November.

70 Case of Aphasia, Both Motor and Sensory, with Integrity of Left Third Frontal Convolution; Lesion in Lenticular Zone and Inferior Longitudinal Fasciculus. F. X. Dercum, Philadelphia.
71 Dispensary Work in Nervous and Mental Diseases. S. E. Jelliffe, New York.
72 Traumatic Lesion of Pons and Tegmentum with Direct and Retrograde Degeneration of Median Fillet and Pyramid, and of Homolateral Olive. A. Meyer, New York.

Journal of the Medical Society of New Jersey, Orange.

November.

73 *Medical Treatment of Gall-Bladder Diseases. J. H. Musser, Philadelphia.
74 *Surgical Treatment of Gall-Bladder Disease. J. B. Deaver, Philadelphia.
75 Significance of Blood Pressure in Surgical Shock. A. J. Wakefield, Union Hill, N. J.

73 and 74. Abstracted in THE JOURNAL, July 20, 1907, page 289.

Iowa Medical Journal, Des Moines.

November.

76 *Operation for Immature Senile Cataract. A. E. Ames, Des Moines.
77 Operation for Senile Cataract. F. W. Dean, Council Bluffs.
78 Diodin in Treatment of Eye Diseases. R. M. Lepley, Keokuk.
79 *Friction in Chronic Affections of Ocular Appendages. D. H. Lewis, Ottumwa.
80 *Value of Atropin and Hematropin Cycloplegia. H. B. Gratiot, Dubuque.

81 *Statistical Data of the Work on Spinal Fluid (Lumbar Puncture). S. R. Klein, Chicago.
82 Labor Complicated by Large Uterine Fibroid. T. F. Kelleher, Des Moines.

76. Immature Senile Cataract.—Amos considers the application of the so-called Indian method, made public in the report of Major Smith on cataract extractions in India, with special reference to the question of its use in double immature senile cataract, and reports four cases of almost consecutive operation in which the results were remarkable.

79. Friction in Eye Diseases.—Lewis discusses Leekernick's method of applying friction in eye diseases by means of little glass balls mounted on handles. This treatment is useful in chronic trachoma, indolent ulcers of the cornea, chronic blepharitis marginalis, old corneal scars and chronic granular conjunctivitis.

80. Atropin and Homatropin.—Gratiot discusses the comparative value of atropin and homatropin cycloplegia. He considers atropin the best, having many advantages over any other cycloplegic. It is reliable, allows more time, and enforces ciliary rest, though it is admitted that homatropin is more convenient, from the short duration of its effect, and is reliable in about 75 per cent. of cases. While alarming toxic symptoms have been reported from its use, Gratiot has no personal knowledge of such.

81. Spinal Fluid.—Klein gives the statistical data from many observations in spinal lymphocytosis, and states that in his observations no more serious results than occasional headache and slight nausea have followed lumbar puncture.

Albany Medical Annals, Albany, N. Y.
November.

83 Address at Opening of Albany Medical College. W. G. Tucker, Albany.
84 Report of Department of Nervous Diseases of Albany Hospital. J. M. Mosher, Albany.
85 *Puerperal Infection from the Gonococcus. E. McDonald, New York.
86 Two Cases of Korsakow's Syndrome Without Polyneuritis. N. A. Pashayan, Schenectady, N. Y.

85. Gonococcus Puerperal Infection.—McDonald refers to cases which seem to show that the gonococcus may be a cause of puerperal infection and may cause severe constitutional disturbance; so that gonococcus infection in the puerperium must not be disregarded, for the danger of extension to the Fallopian tubes is a very grave one. Indeed, a case of the author's shows that it may extend still further, and cause general peritonitis. The character of the lochia in gonococcic infection in the early part of the puerperium remains unchanged, but after the fifth day it becomes more and more purulent, until it is replaced by a purulent discharge. The babies of infected mothers are subject to malnutrition and intestinal disturbances. The influence on labor of pre-existing gonococcus infection is most marked. The gravity of this infection consists not so much in its prime infection and immediate constitutional disturbances, as in the more remote result of tubal and pelvic disease some time after the puerperium.

Military Surgeon, Carlisle, Pa.
November.

87 The Ideal Medical Department in the Field. V. Havard, U. S. Army.
88 What is the Most Effective Organization of the American National Red Cross for War, and What Should Be Its Relations to the Medical Departments of the Army and Navy? C. Lynch, U. S. Army.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.
November 23.

1 *Types of Conjunctivitis. H. H. B. Cunningham.
2 *Organic Preparations of Silver in Treatment of Conjunctivitis. J. M. Kelly.
3 *Frequency and Significance of Optic Neuritis and Other Vascular Changes in Retinæ of Patients Suffering from Purulent Disease of the Middle Ear. J. S. Barr and J. Rowan.
4 *Relation of Dental Surgery to General Medicine. J. M. Ackland.
5 *Medical Aspect of Dental Caries in Childhood. G. F. Still.
6 Causes, Effects and Treatment of Dental Diseases in Children. E. Owen.
7 Etiology and Pathology of Defects of the Teeth of Children. J. G. Turner.
8 Cases of Neuralgia. W. R. Ackland.
9 Difficult Eruptions of Third Molar. A. W. W. Baker.
10 Anatomic Results of Efficient Mastication. F. J. Bennett.
11 Irregularities of the Teeth in Animals. J. F. Colyer.
12 Sarcomata of the Jaws. H. A. T. Fairbanks.
13 *Relation Between Thyroid and Parathyroid Glands. D. Forsyth.
14 *Place of the Spirochæta Pallida in Diagnosis of Syphilis. A. MacLennan.
15 Spirochete of Yaws (Spirochæta Pertenuis). A. Castellani.
16 Bacillus Found in Case of Gangrenous Appendicitis. A. Castellani.
17 Myocardial Lesions of the Rheumatic Infection. C. Coombs.
18 Open-air Treatment of Acute Pneumonia. F. Carr-White.
19 Extrauterine Fetation: Operation; Recovery. H. Smith.
20 Poisoning by Belladonna. C. Maguire.
21 Ether Anesthesia by Open Method. H. B. Gardner.
22 Uncommon Injury of Tibia and Fibula. R. D. Patterson.

1. Conjunctivitis.—Cunningham discusses the pathology of conjunctivitis, particularly in relation to catarrhal conjunctivitis, phlyctenular conjunctivitis, and ophthalmia neonatorum, supporting his remarks with illustrative cases. In the last condition he recommends a 1/5000 bichlorid of mercury solution, irrigating the eye with it every hour or two at least, with application once daily of 2 per cent. silver nitrate.

2. Organic Silver Preparations.—Kelly's investigation seems to show that as a bactericidal agent silver nitrate is very strong and is superior to the organic preparations.

3. Eye Changes in Middle-Ear Disease.—The investigation by Barr and Rowan was undertaken to determine: 1. Whether the condition known as optic neuritis occurs with any frequency in cases of simple purulent otitis media, when there is no evidence of intracranial or vascular complication. 2. Whether or not, short of an actual optic neuritis, vascular changes in the fundus of the eye of a less marked character are common in such cases. While the number of cases here dealt with is scarcely sufficient on which to base dogmatic conclusions, it can not be said that the inquiry has been unfruitful. It has shown the following results: 1. Vascular changes in the fundus of the eye are far from being uncommon in purulent diseases of the middle ear, that in 6 out of 100 there was optic neuritis, and in 21 there were vascular changes, abnormal in character, but short of optic neuritis. 2. The ear affections associated with these vascular changes in the eye were especially severe and persistent, as shown by their course compared with others. 3. Therefore, the presence of these vascular changes in the optic discs would seem to give an unfavorable character to the prognosis of purulent middle-ear disease—in short, it is a danger signal not to be ignored. The practical lessons deducible from these are: 1. A patient showing these changes in the fundus should be closely watched, and their existence should be regarded as an additional reason for the early performance of the radical mastoid operation. 2. If, on the other hand, the eye changes show a tendency to clear off, especially with improvement in the ear condition, or if the fundus is normal to begin with and remains so, we may with more confidence look for a favorable response to conservative treatment.

4. The Teeth and Medicine.—The tenor of Ackland's article is that not only those engaged in dental practice, but most physicians also, must be struck with the rapid way in which the teeth of children are deteriorating so that each generation is worse than the preceding one.

5. Dental Caries in Childhood.—Still considers the various ways in which dental caries causes ill health in children: 1, By interference with nutrition; 2, by failure of appetite; 3, as a possible atrium for tuberculous infection of the lymphatic glands of the neck; 4, as a cause of habit spasm and even of epilepsy.

13. The Thyroids and Parathyroids.—In a preliminary communication Forsyth puts forward the view that the parathyroids are not embryonic, but possess active powers of secretion; that the product of this secretion is a colloid material indistinguishable from thyroid colloid, and that the histologic differences between parathyroid and thyroid are referable to differences in the vigor of secretion and lymphatic drainage in the two glands. In other words, that the parathyroids and the thyroid are functionally the same.

14. Spirochæta Pallida.—MacLennan would go so far as to say that the recognition of a single undoubted *Spirochæta*

pallida in a smear from probable syphilitic lesion would place the diagnosis beyond question. He discusses the question of its demonstration by the method of silver staining and defends it against the objections that have been brought forward.

Lancet, London.

November 25.

23 *Treatment of Epithelioma with Roentgen Rays. R. Schiff.
24 *Relationship Between Avian and Human Tuberculosis. S. G. Shattock and P. N. Panton.
25 *Four Cases in Which Filigree Implantation Was Successfully Applied to Abdominal Hernia Previously Considered Incurable. L. H. McGavin.
26 *Treatment of Bacterial Infections by Vaccines. G. T. Western.
27 Fatal Injury to the Bladder During an Operation for Femoral Hernia. W. H. Clayton-Greene and E. Owen.
28 *Treatment of Innocent Laryngeal Growths by the Galvanocautery. A. Wylie.
29 Rectal Carcinoma Treated by Modification of Witzel's Colostomy and Three Weeks Later by Extirpation of the Entire Organ by the Vaginal Route. F. V. Milward.
30 Interesting Case of Tubal Abortion. G. W. Fitzgerald.
31 Treatment of Yaws (Framboesia). A. Castellani.
32 Case of Cardiac Disease. W. E. Jones.
33 Case of Gastroenterostomy with Complications. T. J. C. Evans.

23. **Roentgen Rays in Epithelioma.**—Schiff summarizes his experience as follows: 1. The favorable effect of Roentgen rays on epithelioma is indisputable. 2. The treatment with Roentgen rays must not, however, be considered in a category by itself; it must rather be looked on as an alternative or as an addition to treatment by other methods. 3. There are obviously biologic differences in the various kinds of epithelioma which have so far not yet been sufficiently explained pathologically and anatomically and on which the success of the Roentgen treatment is dependent. 4. To aid the effect produced by the Roentgen treatment small operations may be done and the cautery applied according to the nature of the case. 5. In those cases in which no favorable influence is produced by the Roentgen rays, at the latest after the fourth or fifth sitting, this treatment must be discontinued, as little more is to be expected from it. 6. The intervals between the single sittings must not be too long; a more active Roentgen light—medium soft tube—with, of course, a careful covering of the healthy parts of the skin, is to be recommended. 7. In surgical operations a subsequent application of rays is eventually desirable. 8. It is of an especial importance to lay stress on the fact that by the application of Roentgen rays the patient is saved from an operation, and the result produced by the Roentgen treatment is not only equally good as regards the cure, but much better as regards the subsequent appearance.

24. **Avian and Human Tuberculosis.**—Shattock and others, as the result of their investigations, conclude that the impossibility of producing infection in the pigeon by means of tuberculous sputum does not allow them to accept the statements which have been made in favor of the convertibility of avian and human tuberculosis, for these statements rest not on experiments but on inferences based only on possibilities. The avian tubercle bacillus from various kinds of birds is pathogenic to the guinea-pig in a limited degree. The human bacillus is not convertible into the avian by inoculation into the bird, i. e., the bacilli are not identical.

25. **Filigree Implantation.**—McGavin, as the result of the employment of Willard Bartlett's method of filigree implantation in hernia, considers that it justifies the claim put forward for its more extensive adoption. He selects four of his cases for report. The difficulty of forming a bed for the filigree in hernia following operation through the lateral wall of the abdomen may be met: 1, by suturing the omentum, if it is long enough and not widely adherent, into the gap; 2, the intestines themselves, especially if more or less adherent to each other, may be used for the same purpose as a last resort; 3, when there is no lack of material, but the peritoneum is inseparable from the abdominal fascia an incision may be made along the margin of attachment of the external oblique muscle to its aponeurosis down to the peritoneum, isolating the remainder of the aponeurosis internally to this incision and stripping away the peritoneum from the oblique muscles bringing together the peritoneal fascia strip and the outer edge of the posterior sheath of the rectus on which bed the filigree can be laid. He has not used the first method, but the other two were devised to meet the requirements of cases reported.

26. **Bacterial Vaccines.**—Western has found the inoculation treatment a valuable adjunct in cases of lupus, tuberculous glands, chronic tuberculous arthritis, erythema induratum and tuberculous epididymitis, in acne, generalized furunculosis and obstinate carbuncle; while the narrower experience in pneumococcus and *Bacillus coli* infections suggests a possible wide field therein.

28. **The Galvanocautery in Laryngeal Growths.**—Wylie holds that the galvanocautery is a most successful form of treatment for small simple fibromata, myomata and papillomata, since besides destroying tissue en masse it cuts off the blood supply and insures complete obliteration of the growth.

Medical Press and Circular, London.

November 20.

34 Tuberculous Diseases of the Knee Joint and Treatment of the Synovial Cavities. R. L. Swan.
35 Anatomy of the Pectinate Ligament of the Iris. T. Henderson.
36 *Pubiotomy. T. Wilson.
37 Death from Hemorrhage from a Medicolegal Point of View. Hendrick.

36. **Pubiotomy.**—Wilson considers the history of symphysiotomy and states that its apparent simplicity is attractive, but on attentive consideration there are in the immediate neighborhood many structures, such as the clitoris and its corpora cavernosa and important vein plexuses which it is desirable to avoid. He therefore prefers the operation of pubiotomy, which he describes, supporting his contention with cases in point.

Australasian Medical Gazette, Sydney.

October.

38 *Extrauterine Pregnancy. J. A. G. Hamilton.
39 Cases of Ectopic Gestation. A. A. Loudon.
40 Extrauterine Pregnancy with Large Hematoma in Abdomen. C. E. Todd.
41 Pregnancy in a Double Uterus. T. G. Wilson.
42 Ectopic Gestation. M. Jay.
43 *Incidence and Fatality of Hydatid Disease. C. MacLaurin.
44 Ringworm and Its Treatment. W. J. Mears.
45 Ringworm and Its Treatment; Technic of Roentgen Treatment. L. H. Harris.
46 Large Infected Liver Hydatid Treated by Evacuation and Immediate Closure Without Drainage. E. H. Russell.

38. **Extrauterine Pregnancy.**—Hamilton considers that the idea of the comparative rarity of this condition which formerly existed was due to imperfect diagnosis. Pelvic hematocele, formerly attributed to other causes, is now recognized to be nearly always due to the rupture of the gestation sac of tubal pregnancy. He discusses its etiology, marshalling the respective opinions for and against the inflammatory theory, and gives his reasons for adhering to the obstruction view. He recounts the details of symptomatology and treatment.

43. **Hydatid Disease.**—MacLaurin discusses the incidence and fatality of this disease in New South Wales from a study of 420 cases. It is noticeable that epidemics, so to speak, of the disease have occurred at periods some five or six years later than a year of exceptional rainfall, as shown by the meteorologic statistics. This he explains by assuming that in dry seasons in country districts vegetables are comparatively scarce, while they are plentiful in wet seasons. This would explain the liability to infection from eating raw vegetables or preparing them for table during the wet season, while it is supposed that it takes five or six years for the disease to manifest itself after ingestion of the ova. Children are rarely affected, the greatest mortality occurring in middle life. The liver is affected more often than all other organs put together, then the peritoneum and next the lungs. Liver affection is most common in children, than in men, and least in women, while women are most liable to peritoneal affection. The parallel in the charts between the rainfall tracing and that for hydatid mortality is remarkable.

Intercolonial Medical Journal of Australasia, Melbourne.

October.

47 Recent Advances in Physiology of Clinical Interest. H. G. Chapman.
48 Treatment of Large Infected Liver Hydatids. E. H. Russell.
49 *Use of Safranin in Testing Urine for Sugar. J. P. Wilkinson.
50 Some Cases of Head Injury. G. A. Syme.

49. **Safranin Test for Sugar.**—Wilkinson describes safranin and the safranin test and considers that the value of safranin is most markedly shown in testing a urine that gives a doubt-

ful reaction with Fehling's solution. He considers it particularly applicable when the amount of sugar is small.

Journal of Tropical Medicine and Hygiene, London.

November 1.

51 *Presence of the Spirochæta Pertenuis (Castellani) in Yaws. Result of Examination in 128 Cases. H. W. K. von dem Borne.
52 Sleeping Sickness in Aboh, River Niger. R. W. Gray.
53 Experimental Beriberi in Monkeys. W. Hunter and W. V. M. Koch.
54 *Treatment of Dysentery by Yellow Santonin. D. J. Drake.
55 Uncinaria. C. W. Branch.

51. Yaws.—Von dem Borne reports on 128 cases of yaws examined for the *Spirochæte pertenuis* (Castellani), which he found in 73 out of 76 cases examined. The organism is apt to be overshadowed by other spirochetes, however, in ulcerated lesions, and is rare in old, dry papules and nodules. He has not been able to find it in the blood, but it was present in the juice drawn from the superficial lymphatic glands in five cases.

54. Santonin in Dysentery.—Drake reports results in the treatment of sixty-five cases of dysentery in two tea estates in Assam. Each alternate patient was treated with 5 grains of yellow santonin in 2 drams of olive oil three times a day on alternate days, the patients not so treated being given bismuth, salines, ipecacuanha or astringents, or a combination thereof, according to ordinarily recommended methods. On one estate 6.58 days was the average time taken to effect a cure by santonin, and the deaths numbered three, while the treatment by other remedies averaged 13.1 days, with 13 deaths. Twenty-five patients were submitted to each form of treatment. The average number of days in the second case was 9, with no death under santonin, while under other drugs it was 30, with 2 deaths.

Clinical Journal, London.

November 1.

56 Associated Abdominal and Thoracic Disease. G. N. Pitt.
57 Surgery of the Cutaneous Melanomata. W. S. Handley.
58 Stone in the Kidney and Ureter; Simple Methods of Diagnosis. T. R. St. Johnston.

Presse Médicale, Paris.

November 16, XV, No. 93, pp. 745-752.

59 Human Atheroma. Experimental Atheroma and Suprarenal Capsules. A. Gompel.

November 20, No. 94, pp. 753-760.

60 Experiences with Stovain-Cocain in Spinal Anesthesia. (Rachistovainisation.) Chaput.
61 New Official Regulations for Prophylaxis of Venereal Diseases in the French Army. H. Chéron.

Revue de Chirurgie, Paris.

November, XXVII, No. 11, pp. 833-889.

62 *Transactions of Twentieth French Surgical Congress, Paris, October, 1907.

62. See news columns, THE JOURNAL, November 2, page 1537.

Semaine Médicale, Paris.

November 20, XXVII, No. 47, pp. 553-564.

63 The Diet in Diabetes. (Régime des diabétiques.) A. Jaquet.
64 The Death Rate in the Various Countries of Europe.

Beiträge zur Klinik der Tuberkulose, Würzburg.

VIII, No. 3, pp. 225-308.

65 *Tuberculous Stenosis of the Pylorus and Solitary Tubercle of the Pylorus. (Zur Pathologie der Magentuberkulose.) P. Barchasch.
66 *Subapical Groove in the Lung and Its Relation to the Origin of Tuberculous Apical Phthisis. (Subapikale Lungenfurchen.) S. Kitamura.
67 Proportion of Potassium Rhodanate in Saliva of the Tuberculous. (Gehalt des Speichels an Rhodankalium bei Tuberkulösen.) Eickgraf.
68 *Systematic Treatment of Pulmonary Tuberculosis. J. Mitulescu.
69 Periodically Recurring Hemoptysis. (Periodisch auftretende Hämoptoe.) F. L. Schlippe.
70 To What Extent is Occurrence of Hemorrhage of the Lungs Influenced by Weather Conditions? (Lungenblutungen und Witterungsverhältnisse.) T. Jansson.

65. Tuberculosis of the Stomach.—Barchasch was able to find only five cases on record of primary tuberculosis of the stomach with one in which there was a pulmonary process, but evidently much younger than the one in the stomach. He has also found three cases of stenosis of the pylorus from a tuberculous process, and reports another similar case. He reviews the five various forms of tuberculosis of the stomach, and states that possible tuberculosis must not be overlooked in the etiology of pyloric stenosis.

66. Subapical Groove in the Lung.—Kitamura reports a case of fatal appendicitis in which a deep groove was found below the apex of the left lung, about 5 cm. long and 5 mm. deep, corresponding to an abnormal course of the subclavian artery. The artery compressed the apex, and the latter was found studded with tuberculous miliary nodules. The cadaver was that of a boy of 12, and nowhere else could a trace of tuberculosis be detected. These findings confirm the assertions of Freund and Hart in regard to the influence of compression of the lung tissue on the development of tuberculous processes. In this case the compression causing stenosis of the bronchial lumen and interfering with normal respiration, and possibly with the circulation through the parts, was evidently responsible for the development of the local tuberculous process.

68. Systematic Treatment of Pulmonary Tuberculosis.—For well-to-do patients with incipient tuberculosis willing to devote their time and money to the restoration of health, Mitulescu thinks that simple hygienic-dietetic measures will suffice, if the patient will submit to the rules laid down and follow them for the rest of his life. Under other conditions he advises supplementary specific treatment with tuberculin or some similar preparation, which acts by stimulating the specific cells and thus promotes healing. When patients are in the second stage of tuberculosis, this combined specific systematic treatment will insure better and more permanent results. He regards sanatorium treatment as inadequate—not more than one in seven of those needing treatment can be admitted to the sanatoriums, even in Germany, and the course of treatment in them is too short. Better results will follow when general practitioners and family physicians commence at once with specific treatment in the earliest stages of tuberculous invasion. Diet and hygiene are not sufficient alone. The principle is to inject substances derived from the tubercle bacilli, keeping the dosage below a febrile reaction. He has thus treated 180 out of his total of 2,100 tuberculous patients. In 1,800 the disease was too far advanced. Only 48 completed the course outlined, and 71 per cent. were clinically cured, and 5 out of 7 patients with "open" tuberculosis. He calls them clinically cured when all subjective symptoms have disappeared, when the general condition is good and the patients can bear 100 mg. tuberculin and 5 mg. of TE without any reaction. Study of the metabolism of a number of the patients during tuberculin treatment showed pronounced stimulation of the cellular processes. All his experience points to the benefit of combining this specific treatment with the measures ordinarily in vogue, and the necessity for instituting this systematic combined treatment on the first suspicion of tuberculosis.

Beiträge zur klinischen Chirurgie, Tübingen.

LV, No. 1, pp. 1-485.

71 *Combination of Scopolamin-Morphin and Chloroform or Ether, and Its Favorable Influence in Respect to Postoperative Pneumonia. (Die mit Scopolamin-Morphin kombinierte Inhalationsnarkose.) W. Gerhan.
72 *Extraurethrine Pregnancy and Its Operative Treatment. Fischer.
73 *Surgery of the Biliary Passages. (Chirurgie der Gallenwege.) Goldammer.
74 *Experiences in 1,000 Cases of Spinal Anesthesia. (Rückenmarksanästhesie.) J. Oehler.
75 Osteoplastic Resection of Foot. Goldammer.
76 Operative Cure of Tumor in Occipital Lobe of Brain. (Tumor des Occipitallappens des Gehirns.) H. Denks.
77 Treatment of Fractures of Malleolus. Eichler.
78 End Results of Fixation of the Round Ligaments in 228 Cases. (Alexander-Adams'sche Operation.) Tillmanns.
79 *Operative Treatment of Idiopathic Epilepsy. Kotenberg.
80 Methods of Investigation in Kidney Disease. (Unsere Untersuchungsmethoden bei Nierenkrankheiten.) Id.
81 Bacteriology of Acute and Chronic Appendicitis. Mansel.
82 Surgical Department of the Hamburg Hospital. (Operationsgebiete, etc.) H. Kümmell.

No. 2, pp. 487-837.

83 Nerve Grafting of the Facial Nerve. (Nervenpropfung.) A. Davidson.
84 Technic of Plastic Operations on the Skull. (Schädelplastik.) O. Bohr.
85 Behavior of Serous Cavities in the Body in Respect to Bacteria in the Circulating Blood. (Verhalten der serösen Körperhöhlen gegenüber im Blute kreisenden Bakterien.) A. Peiser.
86 Subcutaneous Rupture of Muscles and the Operative Treatment. W. Wolf.
87 *Causes of Thymus Death. (Ursachen des Thymustodes.) G. Hotz.
88 Cavernous Muscle Angioma of the Leg. (Kavernöses Muskelangiom des Unterschenkels.) A. Most-Koth.
89 Median Fistula in the Neck. (Mediane Halsfistel.) B. Wilmanns.

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90 Should High Amputation Be Done in Spontaneous Gangrene of the Extremities. (Ist bei spont. Gangrän der Extremitäten principiell hoch zu amputieren?) Id.
91 Bullet Wound of Heart with Tangential Opening of the Lumen of the Ventricle. (Penetrierende Schussverletzung der Herzwand.) O. Fittig.
92 Pathology of the Mammary Gland. (Pathologie der Milchdrüse.) E. Sehrt.
93 *Histologic Changes in Paraffin Injected into Human Tissue. (Veränderungen des in menschliches Gewebe injicierten Paraffins.) Id.

71. **Combination of Scopolamin-Morphin and Inhalation Anesthesia.**—Grimm states that this combination has been used in 2,850 cases in Kümmel's surgical service at Hamburg and always with increasing satisfaction. The patient comes to the operating room tranquil and so drowsy that he notices nothing and takes the chloroform or ether without suffocating or agitation. During the operation there is no salivation, no asphyxia, and scarcely any tendency to nausea or vomiting, while the amount of chloroform and ether used is less than half of what is otherwise required. A mixture of chloroform and ether is preferred, 20 gm. (3v) chloroform plus 90 gm. (3iii) ether. The scopolamin-morphin reduces the secretions so that there is no excessive bronchial secretion and the danger of pneumonia is much lessened. It is not obviated entirely, as pneumonia was observed after the laparotomy in 6 out of 839 cases, that is, in 0.7 per cent., but in comparison with former experiences this is much less than one-third. A single injection of 0.0005 gm. (1/134 gr.) scopolamin is given and after a time 0.01 gm. (1/6 gr.) of morphin is injected, an hour or an hour and a half before the operation. The effect is manifest in 45 minutes.

72. **Extrauterine Pregnancy.**—Fischer relates the experiences at the same hospital in 78 cases of extrauterine pregnancy. The mortality was 5.1 per cent. One patient succumbed the day after the operation to pulmonary embolism and two others to the effects of preceding hemorrhage.

73. **Surgery of the Biliary Passages.**—Over 232 pages are devoted to the experiences in Kümmel's service in 229 cases of affections of the biliary passages requiring operative treatment. Gallstones were left behind in 24 cases, and in one instance new formation of stones seems probable.

74. **Spinal Anesthesia in 1,000 Cases.**—Oehler reviews the tentative experience with spinal anesthesia in Kümmel's service. After trial of various anesthetics, tropacocain is now regarded as relatively the most harmless substance for the purpose now available. Unfortunately, he states, it does not act for more than three-quarters of an hour. It does not induce complete motor paralysis, but relaxes the muscles, both the smooth and the striated, which, however, is a special advantage for certain operations such as reduction of fractures or dislocations. For all operations in and below the inguinal region spinal anesthesia is less dangerous, he asserts, than general anesthesia and it is liked better by the patients. The only absolute contraindication is a septic or pyemic process which might entail a metastatic spinal meningitis. In only one case has permanent injury resulted from the spinal anesthesia; in his experience there has been no instance of permanent paralysis. In the few cases in which there were respiratory disturbances these were controlled by artificial respiration. Collapse in weak or elderly patients yielded promptly to intravenous saline infusion. The one exception mentioned was the case of a woman of 35, whose uterus was evacuated under spinal anesthesia after an abortion. Sixteen hours later convulsions, vomiting and Cheyne-Stokes breathing were observed and the patient died in coma. The blood contained innumerable colon bacilli and signs of recent suppurative cerebrospinal meningitis were evident, also with colon bacilli. The case occurred during the earliest experiences with spinal anesthesia; stovain had been used. For weak and elderly patients he prefers local anesthesia preceded by injection of 0.0005 gm. (1/134 gr.) scopolamin and 0.01 gm. (1/6 gr.) morphin.

79. **Operative Treatment of Idiopathic Epilepsy.**—Kotzenberg reports the complete cure for 11 years to date of 2 patients with genuine epilepsy operated on in 1896. One was a boy of 16, the other a man of 31. In 3 other cases marked improvement was attained, but in 6 others no benefit occurred. The operation was done to relieve the assumed increased intracranial pressure, a skin-periosteum-bone flap being raised over the "first contracting" center or in the left fronto-temporal region.

87. **Causes of "Thymus Death."**—Hota reviews the literature on this subject, his conclusions being in favor of surgical intervention when symptoms indicate compression of the air passages from an abnormally large thymus. The operative results have always been good to date. At the same time he relates the case of a child of 3 presenting symptoms of this kind whose thymus was removed as indicated. It was not so large as anticipated, but the relief at first was very great. In a few days, however, the old symptoms returned, with death from sudden asphyxia. Autopsy revealed that the fourth thoracic vertebra was the seat of a destructive process which had led to the formation of a large abscess in the thorax, compressing the air passages from behind, but not manifesting its presence in any other way.

93. **Fate of Paraffin Prosthesis.**—Paraffin had been injected into the cheeks of a woman and in the course of time it settled downward until the tumors thus formed disfigured her and she applied to have them removed a year after the paraffin had been injected. It was removed through the mucosa of the cheeks in several sittings, and histologic examination in this and other cases showed that both soft and hard paraffin become transformed more or less into fat and are substituted by connective tissue sooner or later. At first numerous foreign body giant cells form around and extend through the paraffin, disintegrating it, and numerous droplets of fat are found penetrating it, especially around the vessels. From the cosmetic standpoint actual permanent benefit from injection of paraffin is extremely improbable, Sehrt thinks.

Berliner klinische Wochenschrift.

November 11, XLIV, No. 45, pp. 1185-1210.

94 Inaugural Address on Assuming Charge of First Medical Clinic at Berlin. W. His.
95 Diagnosis of Tuberculosis by Tests on Animals. (Verwertbarkeit neuerer Methoden zur Diagnose der Tuberkulose im Tierversuch.) G. Joannovics and G. Kapeammer.
96 The Leucocytes in the Urine in Chronic Nephritis. (Beschaffenheit der im Harn bei "Morbus Brightii" vorkommenden Leukocyten.) Schaffgen.
97 Splitting of Color Sense by Focal Brain Affection. (Abspaltung des Farbensinnes durch Herderkrankung des Gehirns.) M. Lewandowsky.
98 No Reflex Secretion of Gastric Juice During Alimentation by Rectum. (Magensaftsekretion bei Rectal Ernährung.) C. Michael.
99 Transforming Process in Spine During Fetal Development. (Umformungsprozess der Wirbelsäule.) E. Falk.
100 Femoral Hernia Passing Behind and Internal to Femoral Vessels. (Hernia cruralis pectinea sive Cloquetii.) Dege. Commenced in No. 44.
101 Epidemic of Relapsing Fever. (Rückfalltyphus-Epidemie in Kiew.) M. Rabinowitsch. Commenced in No. 44.

November 18, No. 46, pp. 1211-1238.

102 Specific Hemolysis of Blood Corpuscles Fixed with Osmium. (Spezifische Hämolyse der durch Osmium fixierten Blutkörperchen.) von Düngern and Coca.
103 Adrenalin-like Action of Serum in Kidney Disease and After Nephrectomy. (Adrenalinähnliche Wirkung des Serums Nephrektomierter und Nierenkranker.) F. Eichler.
104 Case of Adams-Stokes Syndrome. Michael and Bouttenmüller.
105 Precipitin Reaction in Syphilis. L. Michaelis.
106 *Pulsations of the Auricle Visible in the Anterior Chest Wall. (Die an der äusseren Brustwand sichtbaren Pulsationen der Vorhöfe.) E. Rautenberg.
107 *Goiter and Heart Disease. (Struma und Herzkrankheiten.) W. Gittermann.
108 Idiosyncrasy of Infants to Cow's Milk. (Idiosynkrasie der Säuglinge gegen Kuhmilch.) L. F. Meyer.
109 Examination of Blood Corpuscles in Effusions, etc. (Wert der cytologischen Untersuchung von Trans- und Exudaten.) W. Ettinger.
110 Experiences with Marmorek's Antituberculosis Serum. Wohlberg.

106. **Pulsation of the Auricles Visible Through the Chest Wall and Its Interpretation.**—Rautenberg does not know of any publication on the subject of this visible pulsation so far as the left auricle is concerned. The pulsation of the right auricle is not only systolic, but presents all the characteristics peculiar to the auricle pulse. He gives the tracings obtained from a case of compensated mitral and aortic insufficiency with relative tricuspid insufficiency (the seesaw movement). Tracings of the pulsation of both ventricles and of both auricles could be obtained, as also of the left auricle through the esophagus. The seesaw movement of the right wall of the thorax may be observed even with very slight degrees of tricuspid insufficiency, before any other sign has developed, and it can be regarded, he states, as pathognomonic of tricuspid insufficiency. It developed in the case described in detail without any paraly-

sis of the left auricle. The pulsation of the auricles is visible only when the chest wall is still elastic, consequently it is not observed after the age of 30. In the case of a boy of 14 and a man of 21 with combined valvular insufficiency, tricuspid insufficiency was manifest in the first, but was indicated in the other case only by the seesaw movement; the pulsation of both auricles was visible in each case. Visible pulsation of the right auricle may be the first sign of tricuspid insufficiency in the young. The pulsation of the left auricle may be observed through the chest wall also in case of dilatation of the left auricle or of shriveling of the upper lobe of the left lung. He observed it in a young girl with shriveled left lung and retracted chest wall; the pulsation of the pulmonary artery and left auricle showed distinctly in the second interspace. In another similar case the pulsation was likewise visible but less distinct. As a rule, however, this visible pulsation is noted principally with valvular affections. In one such case the patient was a girl of 16 with mitral insufficiency, in another, a woman of 30, with cardiac insufficiency, exophthalmic goiter, and relative mitral and tricuspid insufficiency. He noticed the seesaw movement of the heart with distinct pulsation of the right auricle in three children between 10 and 16 years old with mitral insufficiency and tricuspid insufficiency—the latter not clinically manifest otherwise. It was also noted in adults between 25 and 30 with mitral and tricuspid insufficiency.

107. **Goiter and Heart Disease.**—Gittermann has been looking over the records of the Nauheim physicians during the last six years and found that among 895 cases of myogenic heart affections (651 men and 244 women), 21 men and 100 women had marked enlargement of the thyroid. In 11 cases the goiter was of the exophthalmic type; in the others the goiter had long existed and the heart affection had developed comparatively recently. With one exception the exophthalmic patients were young, but the majority of the other goiter patients were between 50 and 60, with 15 over 60. In only 8 of these 110 "goiter heart" cases were there signs of pressure from the goiter. The others all presented goiter plus myocarditis except a small group with dilatation and a few whose symptoms suggested the exophthalmic type. Characteristic for the "goiter heart" is the slight progressive tendency of the cardiac insufficiency, the predominance of subjective disturbances, even during repose, and the failure of digitalis in the cases with circulatory disturbances. The goiter was generally small, movable, frequently unilateral, rather hard and without venous congestion. It had been noticed since childhood or had developed during puberty or after a pregnancy. The cardiac disturbances had come on gradually later or sometimes suddenly, after a fright or great sorrow. In 4 cases the heart trouble was ascribed to severe influenza. Notwithstanding the signs of myocarditis, with a pulse sometimes up to 120, the patients were still capable of considerable effort without much dyspnea; moderate exercise was experienced as refreshing. The dilatation of the heart did not reach the dimensions observed in other myogenic heart affections. The condition displays a tendency to remain stationary without aggravation. Even when arteriosclerosis develops it does not display a malignant or progressive tendency. He believed that this "goiter heart" had a favorable prognosis until he witnessed the death of 3 such patients from pulmonary edema in the course of angina pectoris. These three patients, however, presented other complications, extreme obesity, pulse permanently 150, or aortic insufficiency. His experience seems to indicate that the secretions of the enlarged thyroid have an antagonistic action to digitalis, the latter not displaying its usual action in such cases. He thinks that this inefficacy of digitalis in these cases testifies to the toxic action of the enlarged thyroid, and further sustains the assumption that the secretions of the goiter act, like digitalis, on the heart muscle. Whether the concentric hypertrophy of the heart so frequently observed is the result of long continued excessive demands on the heart or is the result of direct injury of the myocardium, is still a question. The latter assumption seems most probable as he never noted excessive heart action with this "goiter myocarditis." There is no doubt in his mind, however, that the cardiopathy is the result of thyrotoxic action, although the goiter in these cases is almost invariably small and apparently harmless. He is inclined to include all these cases in the family of exophthalmic goiter; the transitional forms are peculiarly instructive. The morbid thyroid secretion may affect the entire nervous system in some patients and the myocardium alone in others. Kocher's operative cures of 45 patients out of 50 with exophthalmic goiter suggest the possibility of curing these patients with "goiter hearts" by removal of the enlarged thyroid. Rautenberg partially resected the goiter in one patient on account of dyspnea from compression. The result was favorable for three years, after which the heart disturbances returned and proved fatal. He has never witnessed any benefit from Roentgen treatment or antithyreoidin. The milder forms of Nauheim baths had a tonic effect, but did not seem to influence the heart action. Sodium iodid in small doses seemed to act on the heart best, especially during periods of tachycardia which grew rarer and less severe under the influence of small doses, long continued. Local treatment should be applied only with great caution, as it is liable to arouse a latent goiter. He applied electricity only, passing the constant current transversely through the gland for 15 or 30 minutes every day or second day, gradually increasing the intensity, and noticed the unmistakable subsidence of the goiter and of the signs of pressure in 5 out of 7 cases. No effect was apparent when the goiter was not large enough to induce signs of compression. In the last few years he has been trying dietetic measures based on the observation that meat-eating animals succumb more rapidly after removal of the thyroid than the herbivora, suggesting that this gland is most important for the carnivora, and that its secretions and the toxins derived from the meat in the diet neutralize each other. He, therefore, ordered at every meal cooked or raw ground meat, gradually increasing the amounts. The patients were under his observation only for four or five weeks, and consequently he is unable to report decisive results, but this diet was always well tolerated and the patients felt subjectively better afterward.

Centralblatt für Chirurgie, Leipsic.

November 16, XXXIV, No. 46, pp. 1345-1368.

111 *Preliminary and After-Treatment of Laparotomies. R. v. Hippel.

November 23, No. 47, pp. 1369-1392.

112 Nephrotomy by Transverse Incision. (Nephrotomie mittels des Querschnittes.) M. Zondek.

113 Case of Traumatic Appendicitis. F. Fink.

111. **Preparation for and After-Treatment of Laparotomies.**—Hippel advises against much purging of patients before abdominal operations as this evacuation of the intestines tends to favor postoperative paralysis of the bowel. He has been giving for some time and in sixty cases subcutaneous injections of physostigmin after the operation to stimulate peristalsis, and the results have been uniformly excellent. His experience confirms that of Vogel in regard to the efficacy of this measure, but his technic is somewhat different. Immediately after the operation he injects 1 mg. (1/64 gr.) of physostigmin and repeats the injection every three hours until movements are felt in the intestines which the patient is instructed to recognize. An intestinal tube is then introduced and left for an hour. Gases escape through the tube during the day and stool follows a glycerin enema the next day. From two to four injections of the physostigmin are generally necessary; he never noted any inconveniences or by-effects from them. By this early peristalsis the formation of adhesions is prevented and also the danger of rupture of the suture from distension of the abdomen by gases. The dangerous pushing up of the diaphragm is also averted by this technic. Still another advantage is the possibility of feeding the patient amply from the start, thus avoiding debility and hastening the healing of the wound.

Centralblatt für Gynäkologie, Leipsic.

November 16, XXXI, No. 46, pp. 1433-1465.

114 Operative Treatment of Inveterate Puerperal Inversion of Uterus. E. Gross.

115 *Transverse Presentation and Decapitation. (Verschleppte Querlagen und Dekapitation.) J. Wernitz.

November 23, No. 47, pp. 1465-1488.

116 Hyperplastic Changes in Uterine Mucosa. (Hyperplastische Veränderungen der Uterusschleimhaut.) A. Hartje.

117 Case of Delivery Without Loss of Blood. (Geburt ohne Blutverlust.) Galle.

118 *Catheter for Irrigating Uterus. (Uterusspülkatheter.) Jaggy.

115. **Management of Transverse Presentation.**—Wernitz has encountered five cases of shoulder presentation at Odessa in the last eight months. In some both version and decapitation were impossible. If the fetus is dead, the main point is to spare the soft parts of the mother from injury, and he found that the best way to accomplish this is by exarticulation of the projecting arm. This facilitates or first makes decapitation possible. If the shoulder is not movable, the neck can not be reached by pulling on the projecting arm, or if this requires exertion of too much force, he cuts the spine at the most accessible point with subsequent eventration. The fetus can then be extracted with doubled body or the body is divided into three parts instead of in two parts, as usual. Shoulder presentation sometimes occurs so suddenly that unless the obstetrician is present during the entire period of labor his intervention comes too late to save the child. In one case he was able to deliver a living child two hours after the arm had presented, while in another the fetus was so large and labor so vigorous that in half an hour the shoulder was firmly impacted, the dead fetus requiring decapitation before the birth could be terminated.

118. **Improved Uterine Catheter.**—The principal feature of Jaeggy's catheter is that it is made in two parts, the outer shell rotating. By twisting the forked handle half-way around, the side serving for the inflow of fluid becomes the outlet, and the outlet the inflow, thus washing out the lumen and preventing the catheter becoming plugged with secretions, etc. The mucosa is more thoroughly rinsed, he affirms, with this alternation of inflow and outflow on the different parts.

Correspondenz-Blatt für Schweizer Aerzte, Basle.

October 15, XXXVII, No. 20, pp. 625-656.

119 A Hitherto Overlooked Root of the Glossopharyngeal and Vagus Nerves. (Eine bisher übersehene Wurzel des N. Glossopharyngeus und Vagus.) Huguenin.

Deutsche medizinische Wochenschrift, Berlin.

November 11, XXXIII, No. 46, pp. 1889-1928.

120 *Final Report of German Sleeping Sickness Commission. (Schlussbericht über die Tätigkeit der deutschen Expedition zur Erforschung der Schlafkrankheit.) R. Koch.
121 Analysis of Venous Pulse. H. E. Hering.
122 *Substances in Blood in Nephritis that Raise the Blood Pressure. (Drucksteigernde Substanzen im Blute bei chronischer Nephritis.) Schlayer.
123 Lymphocytosis in Cerebrospinal Fluid in Tardy Inherited Syphilis. W. Kretschmer.
124 Principles of Treatment of Hernias. (Grundsätze für die Behandlung der Hernien.) A. Brentano. Commenced in No. 45.
125 *Paraffin Prosthesis as Means to Avoid Compulsory Military Service. T. Goldenberg.
126 *To What Extent is Agitation for Repeal of German Law Against Homosexual Practices Justified? (Inwieweit ist die Agitation zur Aufhebung des No. 175 berechtigt?) A. Moll.

120. **Koch's Final Report on Sleeping Sickness.**—Koch found atoxyl the most reliable and most efficient drug in sleeping sickness, given in a 0.5 gm. dose, repeated on the following day, this double dose to be continued at ten-day intervals for months. Some of the patients who received a larger dose became permanently blind. Other by-effects were transient. Koch succeeded in banishing the trypanosomes from the blood for ten months, and all the patients who had the disease in a mild form, or who were in an early stage, were clinically cured. The mortality among the very sick was 22.9 per cent.; the total mortality was 8 per cent. The experimental work was done under the greatest difficulties, inasmuch as it was almost impossible to control the natives. Koch also found that the *Glossina palpalis* must obtain blood from some vertebrate animal every two or three days, and the blood found in its stomach nearly always proved to be crocodile's blood. Crocodiles have certain breeding places, and advantage may be taken of this in carrying out prophylactic measures, as is now being done by the authorities in three districts. A very effectual measure in exterminating the glossina is to cut down the trees and bushes where they breed. Another fact noted was that infected men entering a non-infected district are liable to infect their wives, while contagion of others never seemed to occur. Atoxyl did not affect the malarial parasite and quinin was not specific for the trypanosome. The *Filaria perstans* was frequently found in the blood of the natives, although no symptoms attributable to its presence could be discovered, and no cases of elephantiasis were encountered. The spirochetes of recurring fever were found in eleven adults and three children. The adults showed no symptoms, but the children were very ill and spirilla were numerous in their blood during the attack.

122. **Pressure-Raising Substances in the Blood in Nephritis.**—Schlayer relates considerable research in this line, the results being constantly negative in respect to any connection between the hypertension in nephritis and the functioning of the suprarenals.

125. **Paraffin Prosthesis as Means of Avoiding Military Service.**—Goldenberg reports from Breslau that three young men applied to the clinic lately to have a tumor removed which proved to be a deposit of paraffin with a low melting point. In each case the paraffin had been injected about a year and a half before for the purpose of simulating a malignant tumor and thus causing the rejection of the individual during the annual conscription for compulsory military service. The paraffin had been injected into the neck or into the scrotum and the young men now desired its removal after it had accomplished its desired purpose. He knows of three other cases of the kind.

126. **The German Law Against Homosexual Practices.**—Moll pleads for the repeal or the revision of the German law which imposes a penalty (imprisonment) for "unnatural practices between persons of the male sex and between human beings and animals." No such law exists in France. The agitation for the repeal is of several years' standing, many physicians having long protested against the illogical and defective law, especially since Krafft-Ebing's publications on the subject of sexual perversions, and his arguments in regard to their morbid, irresponsible nature. Two recent criminal proceedings at Berlin have done incalculable harm, Moll states, saying that it is almost impossible to conceive to what extent these sensational and unscientifically conducted proceedings have promoted homosexual practices and fostered the dread of becoming homosexual. The greatest harm has been done among young people, both girls and boys of 16 and 17, as he explains, especially by the experts' statements that homosexualism is not acquired but is born with one, and that it can never be cured. Moll advocates raising the age of consent for both sexes to 18 years or even higher, and discusses measures to protect the young against being lured into homosexual practices. Young soldiers, he adds, should be especially protected, as they are peculiarly exposed to being led astray by homosexual civilians, not to mention their military companions and superiors. In conclusion he says a word in respect to the movement for sexual enlightenment of the young, remarking that it offers matter for grave concern in certain directions.

Münchener medizinische Wochenschrift.

November 18, LIV, No. 46, pp. 2265-2312.

127 Bacteriology of Congenital Syphilis. H. Bab.
128 Vital Staining of Pale Spirochete. (Vitale Färbung der Spirochäte pallida.) M. Mandelbaum.
129 Diagnostic Importance of Ophthalmic Reaction in Tuberculosis. E. Schenck and G. Seiffert.
130 *"Vessel Stripes"—A Means of Detecting Pulmonary Incipient Tuberculous Processes. (Gefässstreifen. Vascula cutanea striiformia.) K. Francke.
131 Efficacy of Pancreatin in a Carcinoma. R. Hoffmann.
132 Habitual Rotation Subluxation of Fourth Cervical Vertebra. (Habituelle Rotationssubluxation des vierten Halswirbels.) M. van Oordt.
133 Initial and Recurring Forms of Roseola. H. Vörner.
134 Qualitative and Quantitative Determination of Gas Formation with Gas-forming Anaërobic Bacteria. (Vorrichtung zur Gasbestimmung.) G. Seiffert.
135 Pseudodysentery. Hilgermann.
136 *Pyocyanase as Prophylactic and Curative Remedy in Certain Infectious Diseases. R. Emmerich. Commenced in No. 45.

130. **"Vessel Stripes." Sign of Incipient Pulmonary Tuberculosis.**—Francke explains that an incipient inflammatory process in the apex causes production of toxins which are taken up by the lymph and act on the blood vessels of the region which are laved by the lymph. The walls of the vessels feel the effect of the toxins and become less elastic and less resistant so that they stretch under pressure and are unable to contract to their former size. Only a minimal amount of toxin is generated with an incipient process, but it is sufficient in most cases to affect the walls of the blood vessels of the hairs, at least. They stretch under pressure and are unable to contract again, the result being that these vessels become visible

when they are thus permanently gorged with blood. This causes the appearance of red or bluish stripes, from 2 to 8 mm. long. They are similar to the vessel stripes observed in red cheeks, in cicatricial regions, or wherever the skin has been subjected to injury. When these delicate stripes are observed over the apex of the lung—the skin being otherwise sound—they imply a focus of inflammation below. He examined 200 tuberculous patients and discovered these stripes over the apex in three-fourths of the number. Examination of 150 non-tuberculous patients showed these proportions reversed, only one-fourth presenting the stripes. It is probable, he thinks, that some of the patients with positive findings may prove to be tuberculous later or to have passed through a tuberculous process, now healed. The presence of the "striæ vasculares" can, therefore, be accepted, he declares, as a presumptive sign of a tuberculous focus in the superficial parts of the lungs, existing or healed. The absence of such stripes with unmistakable manifestations of tuberculosis indicates that the focus is situated at a considerable depth from the surface. The number and extent of the stripes indicate the extent of the tuberculous focus, and their color and shape, the age of the inflammation; the redder the stripes the more recent, he declares, is the distension of the vessels. A mixture of stripes of various kinds shows a combination of old and recent inflammations.

136. **Pyocyanase as Prophylactic and Remedy for Certain Infectious Diseases.**—Emmerich continues his official report on pyocyanase, the first part of which was summarized in these columns last week. He here describes the details of six cases of diphtheria and croup with complicating streptococcus and staphylococcus infection. Notwithstanding repeated injection of diphtheria antitoxin the disease continued a progressive course, showing merely transient improvement after the injections. Under pyocyanase treatment the course promptly took a turn for the better and the patients all recovered. This was also the history of 32 patients with diphtheria treated with pyocyanase; an infant with complicating croupous pneumonia succumbed to the progress of the latter. The most important advantage of the pyocyanase treatment, he adds, is that the complicated cases, which formerly led to gangrene or other severe lesions or general sepsis can now be kept under control and the patients cured without serious after-affections. In conclusion he remarks that such manifest and unquestionable life-saving measures as diphtheria antitoxin and pyocyanase will contribute immeasurably to enhance the prestige of the medical profession in the eyes of the laity and anchor and strengthen the confidence in scientific medicine.

Archivio per le Scienze Mediche, Turin.

XXXI, No. 3, pp. 233-351.

137 Experimental Staphylococcus Cystitis and Infection of Kidneys. (Cistite stafilococcicche sperimentali e infezione renale.) M. Donati.

138 Behavior of Certain Amino-Acids Given by Mouth in Cirrhosis of the Liver. (Modo di comportarsi di alcuni aminoacidi in alcuni casi di cirrosi del fegato.) F. Michell and L. Borelli.

139 Physiology of the Pituitary Body. (Fisiologia dell' ipofisi.) L. Salvioli and A. Carraro.

140 Experimental Research on Relations Between Spleen and Liver in Cirrhosis of Liver. (Rapporti fra alterazioni della milza e del fegato.) E. Grimani.

Sei-I-Kwai Medical Journal, Tokio.

May 31, XXX, No. 5, pp. 161-168.

141 Case of Rhabdosoma Strongyloides in Japan. M. Yamada.

July 31, No. 7, pp. 176-186.

142 Killed and Wounded in the Field Artillery Regiment at Siege of Port Arthur. S. Yasujima and S. Yamazaki. Commenced in No. 6.

August 31, No. 8, pp. 209-226.

143 °Differentiation Between Tuberculous Meningitis During Pregnancy and Uremia or Eclampsia. K. Takemura.

143. **Differential Diagnosis Between Tuberculous Meningitis During Pregnancy and Uremia or Eclampsia.**—Takemura discusses the aggravation of tuberculous processes during pregnancy. Previously latent catarrhal affections rouse up to a progressive course, and tuberculous meningitis and miliary tuberculosis are liable to develop as the pregnancy progresses. The onset of tuberculous meningitis in such a case presents a deceptive clinical picture, simulating eclampsia. He adds that in Japan beriberi is often a complication of pregnancy, and the clinical picture then resembles that of kidney disease in pregnancy. In a case described, a previously healthy young woman in the fourth month of pregnancy had chills, headache and spasmodic contraction of the muscles of the eyes, face and limbs, but no albumin could be detected in the urine. An incipient tuberculous lesion was evident in one lung, and the progressive character of the stupor, the incomplete paralysis of the nerves of the base of the brain and of the limbs soon differentiated tuberculous meningitis. It proved fatal in a few days. He points out the absence in this case of the edema of the face, etc., which is generally an important sign of eclampsia with reduction in the amount of urine secreted. The composition of the urine is no criterion as to the presence or absence of uremia. In eclampsia, he adds, the patient rouses at times and is comparatively conscious, while in tuberculous meningitis the stupor continues a progressive course without intermission. Return of complete consciousness is seldom or never observed in the meningitis. The onset of eclampsia is briefer and more stormy than that of tuberculous meningitis, and the convulsions subside at times, while the visual disturbances come on suddenly, instead of gradually, and subside as the other symptoms disappear. Uremia and eclampsia present approximately the same clinical picture in certain respects, both probably, he thinks, being the work of the same or similar poisons, the only difference being possibly the different origin of the poisons. He advises prompt delivery in eclampsia, and denounces the use of morphin, which checks djuresis and defecation and thus closes these outlets for the toxins. He prefers chloral or chloroform for patients without heart disturbances. Sweating procedures are useful, but rather troublesome for the general practitioner, he says, and not absolutely harmless, as they excite the patient. Wet packs for the body and injection of pilocarpin are preferable, he thinks, with purgatives or heart tonics internally and diuretics, such as juniper berries, sodium tartrate and caffein, to aid in expelling the toxins.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

Diseases of Children for Nurses, Including Infant Feeding. Therapeutic Measures Employed in Childhood, Treatment for Emergencies, Prophylaxis, Hygiene and Nursing. By Robert B. McCombs, M.D., Assistant Physician to the Medical Dispensary of the Hospital of the University of Pennsylvania. Pp. 431, with illustrations. Cloth. Price, $2.00. Philadelphia: W. B. Saunders Co., 1907.

The Operations of Surgery. By Jacobson and Rowlands. Vol. I. Upper Extremity, Head, Neck and Thorax. Cloth. Pp. 936. Price, $5.00. Vol. II. Abdomen, Lower Extremity and Spine. Cloth. Pp. 1139. Price, $6.00. Philadelphia: P. Blakiston's Son & Co., 1908.

Quiz Compends of Surgery. By Orville Horwitz, B.S., M.D., Professor of Genitourinary Surgery, Jefferson Medical College, Philadelphia. Sixth Edition, Revised and Enlarged. Pp. 334, with 195 illustrations. Price, $1. Philadelphia: P. Blakiston's Son & Co., 1907.

Osler's Modern Medicine. By William Osler, Regius Professor of Medicine in Oxford University, England. Vol. III. Infectious Diseases and Diseases of the Respiratory Tract. Cloth. Pp. 960. Price, $7.50. Philadelphia: Lea Bros. & Co., 1907.

Preventable Blindness. By N. Bishop Harman, M.A., M.B., Cantab., F.R.C.S., Eng., Demonstrator of Pathology, Middlesex Hospital Medical School. Cloth. Pp. 108. Price, $1.25. New York: William Wood & Co., 1907.

Abdominal Hernia. By W. B. DeGarmo, M.D., Professor of Special Surgery (Hernia), New York Postgraduate Medical School and Hospital. Cloth. Pp. 458. Price, $5.00. Philadelphia: J. B. Lippincott Co., 1907.

Cancer of the Stomach. By A. W. Mayo Robson, D.Sc., F.R.C.S., Bradshaw Lecturer, 1905. Cloth. Pp. 218. Price, $1.75. New York: William Wood & Co., 1907.

Annual Reports of the Department of the Interior, 1906. Commissioner of Education. Vol. I. Cloth. Pp. 642. Washington: Government Printing Office, 1907.

Journal and Proceedings of the Royal Society of New South Wales for 1906. Vol. XL. Pp. 560. London: George Robertson & Co., 1907.

La Pratique de la Medecine. By William Osler. Paper. Vol. I. Pp. 704. Vol. II. Pp. 1234. Price $5.00. Paris: G. Steinheil, 1908.

Studies from the Department of Neurology of Cornell University Medical College. Vol. II. Paper. Pp. 381.

Studies from the Rockefeller Institute for Medical Research. Vol. VII. Paper. Pp. 463.